



BUSINESS TECHNOLOGY LEADERSHIP

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hard to do right

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ALWAYS
ON
CIO**



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ever before, you need a way to
preserve your productivity at
work and your sanity at home.
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BY MATT VILLANO

I SAID GETTING LINUX AND
WINDOWS TO WORK TOGETHER
IS THE RIGHT THING TO DO
AND THEY SAID YOU'RE SO RIGHT.

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[YOUR CAREER]

How Extreme Is Your Job?

After reading **The Extreme CIO** (Page 33), take our **nine-question assessment test** to see where your workload, its character, the time you spend on it, the job's demands and how your work affects your life put you on the extreme job scale. (We also hope you'll visit CIO.com's extensive online career coverage, but we'll understand if you have to hurry back to work after you rush through the self-assessment questions.)

» quizzes.cio.com/extreme_jobs_quiz

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[GETTING CLUEFUL]

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[ADVICE & OPINION]

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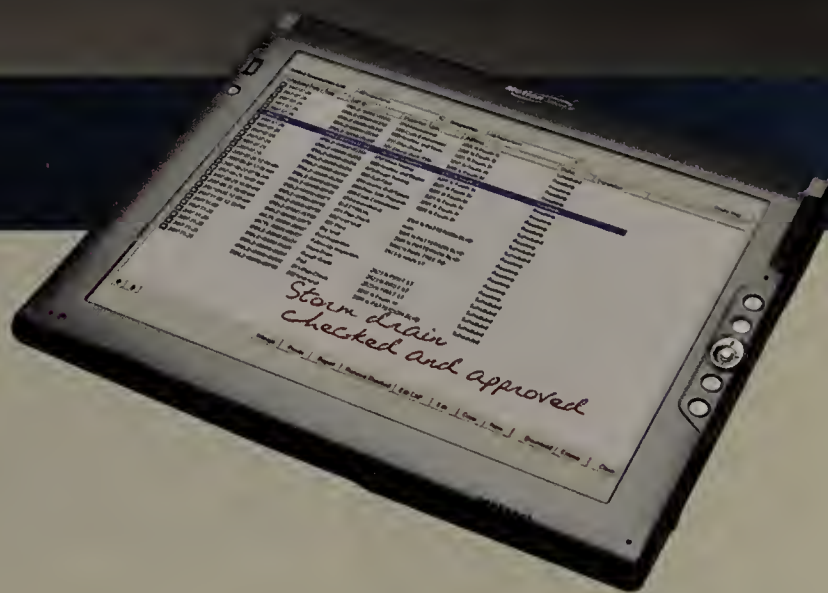
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FROM THE EDITOR

Bad Sex for CIOs?

Do I have your attention now? Good.



To illustrate our cover story on CIOs who are “always on” (see “The Extreme CIO,” Page 33), we wanted to photograph Tom Conophy, CIO of InterContinental Hotels Group. Conophy handles technology and operations for hotels in 100 countries, has 750 IT staffers working for him around the world, regularly works between 80 and 90 hours a week and estimates that he’s logged a million air miles since joining the company 14 months ago. He said he could give our photographer 10 minutes.

On the road. In the lobby of one of his hotels.

That was all the time he could afford to take away from his job.

And Conophy loves his job.

Which is great. It’s great to love your work, and CIOs do. Why shouldn’t they? They’re in the thick of the action, on the cutting edge of change and innovation. They create value for their enterprises and make everybody more productive.

But (and you knew there’d be a but) when you work over 60 hours a week, as many CIOs do, something’s gotta give.

Like sex.

According to the Center for Work-Life Policy, fully half the respondents to a study of people who work what the CWLP calls “extreme jobs” (defined as those that require at least 60 hours a week, demand 24/7 availability to clients, have unpredictable work-flows, entail a good deal of travel and involve a large range of responsibilities—that is, the CIO role) said their job makes it “impossible” to have a satisfying sex life.

Which is not good.

Furthermore, 69 percent said they would be healthier if they worked less.

So don’t you think it might be smart to spend a little of your precious time figuring out how to cut back a bit? How to work a tad more efficiently? How to delegate?

Look, you’re not going to quit. You’re not going to move to a lakeside cabin and fish your days away (at least not yet), but chances are you need to get a better handle on that old work-life balance thing before the work you love either kills you or seriously impairs your ability to function as a part of the family you also love.

So take the time. Read the story. Get a grip.

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FROM THE PUBLISHER

The H-1B Debate

Is the visa the problem or a symptom of a bigger problem?



I recently suggested that Congress cut the current H-1B visa limit in half for the coming fiscal year and eliminate the program entirely by 2014. (See "Memo to Congress," at advice.cio.com/gary_beach/memo_to_congress_cut_h1b_visas_by_50.) The post created a firestorm of insightful, intelligent and emotional responses.

The idea behind my proposal was this: The American education system, particularly in science and math, needs a makeover if we want to compete with countries like India and China. In my opinion, the H-1B six-year

temporary visa program is a Band-Aid covering up our science and math woes.

We don't need to hide the problem; we need to fix it.

One tech exec, while disagreeing with my suggestion, pointed to another culprit beyond the way we teach science and math: the high cost of education. As a father who just finished investing in two college educations, I agree, and I wonder how many talented young Americans forsake a career in the sciences because of the daunting cost of higher education. Yes, there are many financial supports and community and junior college programs available for lower income kids, but answer me this: Would more young Americans opt for an education in science and math if the cost of education were lowered?

Another person who disagreed with me said, "Jobs are lost in America not because of H-1B or other factors. The real truth is that the lack of high-quality talent in America makes American firms turn to lower-cost countries like China and India and others. If U.S. workers were competitive, there's no way they could be replaced by [foreign] workers."

In proposing yet another solution, a person wrote that "a case could actually be made in favor of keeping the limit, but Congress should throw out this silly lottery system that lawyers have learned to game. Instead, it should be replaced with an auction system where there is a limit of 5,000 visas per month and the highest bidder wins. The more you pay in application fees, the more likely you are to get a visa."

What do you think? You can find my blog and add to the debate at advice.cio.com.

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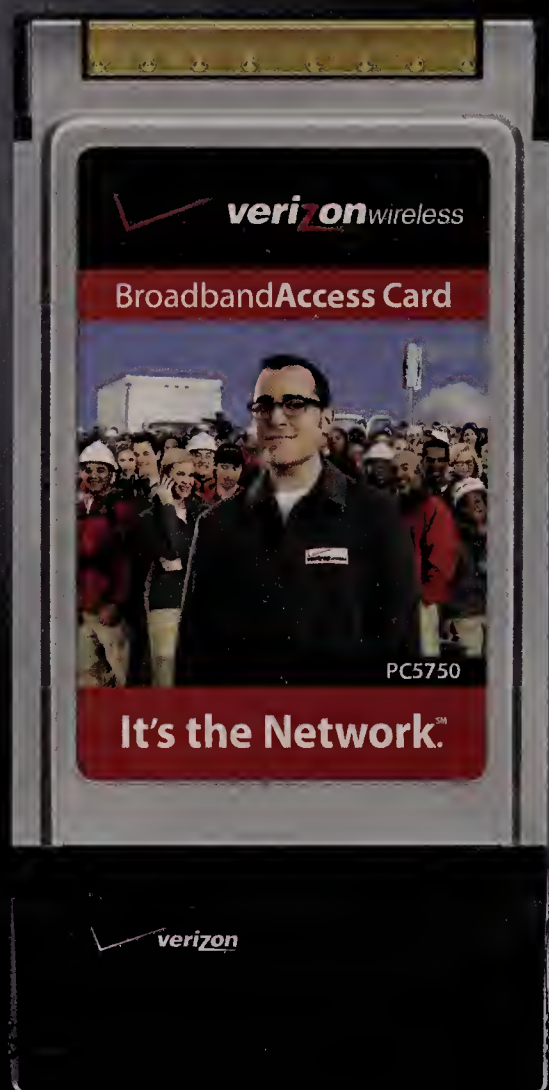


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trendlines

EDITED BY LAURIANNE McLAUGHLIN

NEW * HOT * UNEXPECTED

How I Escaped E-Mail Attachment **HELL**



MESSAGING E-mail attachments have become a staccato series of shooting pains for many a CIO. Today's attachments—packed with presentations, PDFs, video clips and other space gluttons—keep getting bigger. They can bloat your servers, make backup and restore jobs more complex, and slow user mailbox opening to a crawl (prompting help desk calls). Sure, you can ask people nicely to stop sending large e-mail attachments. But sooner or later, says Fred Danback, CIO of Integro Insurance Brokers, you realize something's gotta give.

"We even asked pretty please with sugar on it," says Danback, "but com-

pliance is never voluntary." Integro, a \$50 million insurance brokerage founded in 2005, focuses on big clients and complex risks.

As of 2006, Integro's e-mail system, supporting some 400 users in five countries, was groaning under the weight of frequent document transfers. Plus, his users were having issues such as clients not receiving their messages, since many firms limit attachment size to prevent problems like denial-of-service attacks.

"Then you get the help desk call," he says. "You had to find ways around it, but it was inconvenient." Some users and their

Continued on Page 12

OPEN SOURCE Helps Stop Rubbernecking

INNOVATION A car accident on a major expressway is bad enough, but when thousands of drivers slow down to gawk, they can cause follow-on accidents. *Rubbernecking* is the term, of course, and a group of engineering students and their professor at the University of Maryland have decided to do something about it: They're enabling a number of Washington, D.C.-area traffic agencies (and their disparate systems) to communicate and clear accidents faster, by standardizing their information through an open-source, PostgreSQL database and mapping system.

"Up until now, all the agencies have been doing their own thing," says Michael Pack, laboratory director of the Clark School's Center for Advanced Transportation Technology Laboratory at the University of Maryland, where he and 45 engineering students have been working on the project, tapping into \$1.9 million in federal funds.

In the D.C. area, there are four major traffic centers: Virginia,

Maryland, D.C. and the Washington Metropolitan Area Transit Authority, as well as many local county centers. All the centers have their own computer systems and methods of monitoring traffic and accidents, using CCTV and road sensors to measure speed and the volume of cars. "If they thought the accident was big enough, they'd pick up the phone and call someone in a neighboring jurisdiction to let them know about it, but it was generally hit or miss," Pack says.

So Pack and his group of engineers are using an open-source database and an open-source mapping service from the University of Minnesota to take all the information from each agency's database, translate it into one easy format and push it back to each agency so they can see each other's traffic information in real-time. For example, if an accident occurs in Maryland near the Virginia border, Virginia will be immediately alerted.

—C.G. Lynch

Mid-Market Suites Tune In to iPhone, PDAs

MID-MARKET With the help of three new partners, NetSuite now provides extensions to its hosted mid-market applications suite so it will run on mobile devices. NetSuite's eponymous integrated software-as-a-service (SaaS) online suite includes ERP, CRM and e-commerce functionality.

The partners—Antenna Software, Explore Mobile (a wholly owned subsidiary of Explore Consulting) and iEnterprises—have used NetSuite's SuiteFlex application development and integration software to build extensions to the NetSuite apps so they can be accessed wirelessly by BlackBerry, Windows Mobile and Palm Treo users. Pricing is up to the partners; NetSuite CEO Zach Nelson expects each extension to typically cost \$25 per user per month.

NetSuite users can also now access the suite via their iPhones, as the much-hyped Apple device inches into enterprises. NetSuite 2007.0, the latest version of the SaaS suite, includes native support for the most recent release of Apple's Safari Web browser, functionality that NetSuite has dubbed SuitePhone. The iPhone uses Safari as its Web browser. Unveiled in June, NetSuite 2007.0 is being rolled out to the vendor's existing customer base and will be available this summer.

In April 2006, NetSuite's prime competitor in the hosted CRM space, Salesforce.com, made its first ever purchase, acquiring one of its partners, wireless technology developer Sendia. The vendor also launched AppExchange Mobile, technology based on Sendia's software, allowing customers to access on-demand applications from Salesforce.com and its partners from handheld computers and smart phones. —China Martens

E-Mail Hell

Continued from Page 11

clients were resorting to using Google's Gmail. Danback decided to address the problem in early 2007 with an e-mail attachment appliance from Accellion.

Still an emerging category of products, e-mail appliances shift messages with huge attachments away from your e-mail server and into the appliance for storage. When anyone in Danback's firm sends a message bigger than 10MB, it kicks over automatically from his Exchange server to be routed via the Accellion appliance.

When the recipient gets the e-mail message, he doesn't get the attachment inside the message but instead clicks on a Web link to grab the document. The user can save the document to his machine's hard drive. At Integro, Danback typically sets those links to live for 30 days.

Accellion boxes configured like the one Danback uses cost between \$5,000 and \$10,000. Other vendors competing in this space include GlobalScape and Intradyn; offerings including traditional software and appliances often blend security, archiving and attachment management chores.

The old-fashioned solution: Ask users to utilize an FTP server for large e-mail messages. But Danback didn't want to ask users to futz with something other than their usual e-mail client.

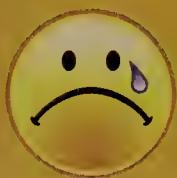
The more attachment-heavy your company is, the more a caching appliance makes sense in terms of ROI. If you have complex discovery and compliance needs, you will want to consider using an appliance in concert with e-mail archival software. Both of these product categories are growing, with good reason: A recent Osterman Research study found that 59 percent of enterprises call messaging storage a serious problem. And messaging storage needs are growing at a clip of about 35 percent per year, according to Michael Osterman, principal of Osterman Research.

—Laurianne McLaughlin

I Can't Get NO SATISFACTION

CAREER It's not your imagination: The money guys are happier.

According to a recent survey by career and recruiting network ExecuNet, IT executives are the least satisfied of all those in the management ranks.



41%

of IT execs called themselves satisfied in their current jobs.



63% of CFOs

and comptrollers called themselves satisfied.



67% of

HR execs called themselves satisfied.

SOURCE: ExecuNet

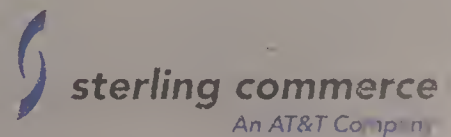


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Hotel Room of the Future Packs **Tech Toys**

GADGETS The year: 2010. The setting: Your hotel room, after a day of business travel. You walk in to

find a bevy of technology-fueled amenities—from a digital peephole in your door, to a toilet that lifts its own lid. That's the vision of Guestroom 2010, the "hotel room of the future," on display recently at a conference run by the Hospitality Financial and Technology Professionals (HFTP).

After polling frequent travelers on the ins and outs of hotel rooms, HFTP gave the traditional model a makeover.

One example: Guestroom 2010 features a technology-

laden bathroom, located at the rear of the room rather at its usual location near the

Get the weather with your morning cup of joe.

entrance, says Frank Wolfe, CEO of Hospitality Financial and Technology Professionals.

Not all the 70 ideas featured in Guestroom 2010 may interest hotel companies, but HFTP's goal is to start the discussion, Wolfe says. Here are a few of the examples on display.

* **Neorest 600 Toilet** by TOTO USA: Equipped with sensors, this toilet automatically opens when you approach it, then closes and flushes when you're finished. It also includes a heated seat and automatic air deodorizer.

* **Empty-Food-Tray-Detection System** by Axxess Industries: This RFID-based system detects trays placed outside guest rooms and alerts staff for a quick pickup. Transmitters are placed on the food trays.

* **Smart Mill & Brew Coffeemaker ME1MSB** by Melitta USA: This 10-cup coffeemaker shows up-to-the-minute weather forecasts from MSN Direct. Region-specific data is transmitted via FM signal.

* **Digital Door Viewer** by First View Security: To make visitors outside hotel rooms more easily identifiable, a flat-screen LCD displays an image captured by a tiny digital camera on the exterior of the door. —Kristin Burnham



What's Next for Housing Industry CIOs

CAREER When an industry hits the skids, as high tech did in 2001, a spike in executive management turnover usually ensues. Following that logic, you'd think IT executives would be leaving mortgage, construction and real estate companies in droves, what with the housing market experiencing its deepest and most protracted slump in years. But they're not. For all intents and purposes, management inside the housing industry has remained relatively stable.

"There has been a slight trend upward [in management churn] in the mortgage industry, but it's not been as big as one would have expected at this point," says

Richard Jacovitz, senior VP and research director at Liberum Research, a provider of investment research focused on management change. "It may be that the shakeout hasn't wheeled its way through the personnel end."

It may also be that many of the subprime lenders hit hardest by the slump have already gone out of business: New Century Financial filed for Chapter 11 in April (its former CIO-turned-COO **Joseph Eckroth** found a new home with Hertz as its CIO in June). Mortgage Lenders Network discontinued its wholesale lending operation in January, a month after Ownit Mortgage Solutions closed up shop.

Jim Bond, managing director and head of technology practice with executive search firm Horton International, advises CIOs in the housing industry to begin looking for new jobs elsewhere now. Ironically, Bond sees a lot of opportunities for CIOs with high-tech startups, whose investors are seeking experienced CIOs to build the companies' infrastructures for growth. "CIOs I talk to are getting lots of calls from the venture capital community," he says.

That may mean going from one boom and bust industry to another.

—Meridith Levinson



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BY CHINA MARTENS

Enterprise Architect

job description: An enterprise architect (EA) takes a company's business strategy and defines an IT systems architecture to support that strategy, according to Jim Lanzalotto, vice president of strategy and marketing at talent and outsourcing firm Yoh. To do so, EAs must understand a company's business and be able to dive deeply into technology issues. In recent years, the role has moved out of the banking industry to pop up all over the corporate universe as companies move to align business goals with the IT infrastructure that supports the business and helps achieve those goals.

skill; self-confidence is a must. EAs have to talk to both technical developers and business managers. They need to be able to stand up in a meeting and tell the most senior person in the room unwelcome news, like an IT project won't make its deadline. EAs also need to demonstrate that they're on the cutting edge of enterprise software and SOA.

why you need one:

With more than 50 percent of IT projects typically not achieving their stated goals, having someone to ensure that a company's technology objectives are aligned to its business goals is vital. The EA role becomes more important as companies adopt service-oriented architecture (SOA) approaches to application development. To realize significant cost savings with SOA,

issues of software quality and reusability are key. An EA must be able to see whether the application has been built with quality and reuse in mind. "They don't need to know how to program, but they need to be able to recognize patterns," says David Buckholtz, vice president of planning, enterprise architecture and quality at Sony Pictures Entertainment.

desired skills: At least a BS, potentially an MS or a PhD. An MBA would be the icing on the cake. Degrees generally aren't offered in enterprise architecture, but some universities and other organizations provide certification programs focused on underlying concepts, best practices and tools. Other industry certifications are good

to see on a candidate's résumé, such as the certificate for systems engineer, says Lanzalotto.

how to find them:

Enterprise architecture is an emerging specialty, so it's a challenge to find people with the right skill sets. Since the position requires in-depth knowledge of a company's particular business, Buckholtz recommends a wide, geographic search. "You have to be willing to go out and relocate people," he says. Consultancies and systems integrators are good places to look, since staff there have honed their IT and business skills on a variety of projects focused on different industries and technologies.

what to look for:

Communication is a key

elimination

round: Buckholtz says to be leery of candidates who claim their IT projects have been 100 percent successful. Look instead for interviewees who willingly discuss projects where they didn't achieve the goal and tell you what they learned from the experience.

growing your own: Buckholtz notes Sony was able to get two out of four application architects to jump to the next level and become enterprise architects. The pair who didn't make it had only software development experience, while the two who succeeded had those skills as well as backgrounds in IT consulting.

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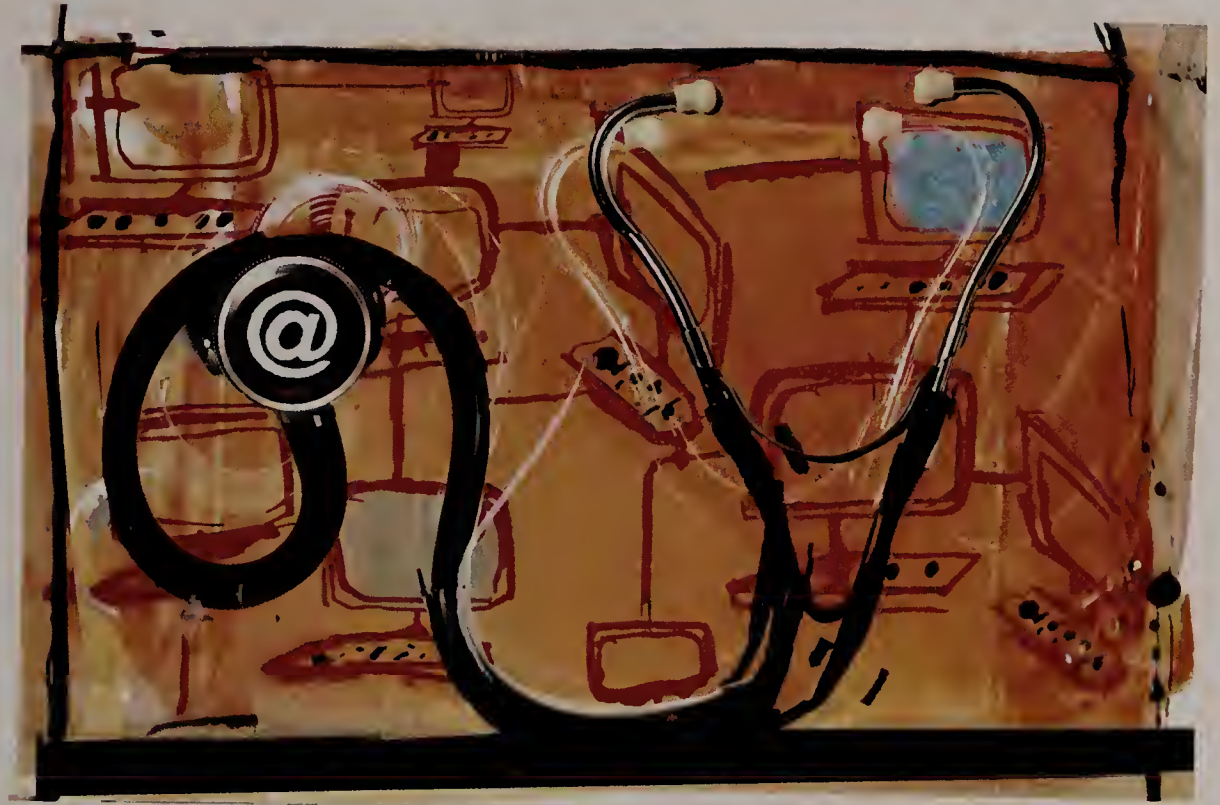
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technology

Edited by
Laurianne McLaughlin
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Despite the hype, U.S. enterprises seem to be in no hurry to adopt the next-generation Internet protocol. Here's why.

IPv6 Checkup Time

BY BOB VIOLINO

NETWORKING | One fact has become clear about IPv6, the next-generation Internet protocol developed to gradually replace the current IPv4: Adoption by U.S. enterprises is not happening on Internet time. Even those who see potential in the technology, like Dan Demeter, CIO of talent management company Korn/Ferry International, are taking it slow. He plans to introduce IPv6 by 2010 as part of a worldwide network upgrade for his company.

"We believe that [by] adopting IPv6 and restructuring our network routers and servers, we can deliver faster and more reliable and secure client solutions," Demeter says. Also, Korn/Ferry employees use BlackBerry mobile devices to access key company executive search data, and Demeter wants to explore the potential of IPv6 for providing additional mobile services.

Among top benefits, IPv6 promises a significant increase in the number of addresses available for networked devices such as mobile phones, and simpler administration of networks.

But Demeter says Korn/Ferry is in the exploration stage, with no firm time frame for a pilot test. "Our approach is to focus on the areas where we can derive the most benefits and move ahead in gradual fashion as our experience grows and as we ensure that all the infrastructure components are compatible with IPv6."

He's not alone. Federal government agencies are mandated by the Office of Management and Budget to move their network backbones to IPv6 by June 2008—and so are the contrac-

tors that do business with agencies. But outside that space, few organizations seem to be deploying the standard. Research firm Gartner estimates enterprise adoption at less than 1 percent.

Should IPv6 be on your drawing board yet? Consider the key issues and the experiences of early adopters carefully.

Few Business Drivers for IPv6

Several factors are fueling the sluggish adoption rate. A study by Cisco in 2006 cited the lack of dedicated funding and IT staff for IPv6 implementations.

Another hurdle: "The fact that IPv6 implementation is viewed more as a technology issue than a business benefits driver probably also is an obstacle to its immediate widespread adoption in the U.S.," says Michael A. Gold, a senior partner in the litigation group of Los Angeles law firm Jeffer, Mangels, Butler & Marmaro and cochair of the firm's Discovery Technology Group.

"This is very shortsighted in terms of global competition," Gold says. "In the not-too-distant future, many home appliances—even dog collars—will be Internet connected. Many automobiles are connected today. Each of these devices will require using an Internet address in order to communicate across the network."

Quite simply, the system will run out of addresses some years from now without IPv6. (ARIN, a regional Internet registry organization that provides services related to the management of Internet number resources, won't comment on when those IPv4 addresses will run out.)

Other countries, notably China, have pushed the implementation of IPv6 more aggressively than the United States.

Among the other possible benefits of IPv6, the technology enables a more simplified network architecture that removes network address translation devices, clearing the way for powerful peer-to-peer capabilities, says Erica Johnson, senior manager of software and applications and IPv6 consortium manager at the University of New Hampshire's InterOperability Laboratory. The lab oversees the Moonv6

"It's not going to be a light switch; we don't have a Y2K effect with deploying IPv6."

—Erica Johnson, IPv6 consortium manager,
University of New Hampshire InterOperability Laboratory.

project, a global effort to test IPv6 equipment from different vendors.

IPv6 also includes a greater amount of usable address space for additional nodes on the network, allowing better utilization of multiuser technologies such as VoIP, interactive video and collaborative applications, she notes.

But Johnson concedes that even with the potential gains from IPv6, building a business case for adoption will be a challenge for many. "A lot of that has to do with testing and education," she says. "It's not going to be a light switch; we don't have a Y2K effect with deploying IPv6."

Some analysts are more blunt. "Commercial enterprises have little reason to adopt IPv6," says David Willis, research VP at Gartner. "Migration costs are very high for established IP networks, and attempts to transition even moderate-size networks have revealed many unexpected problems and hidden costs."

Willis says most of the benefits of IPv6 "can be delivered with current IP [IPv4] workarounds such as network address translation and IPsec [the Internet security protocol]."

Willis adds that he expects IPv6 to "creep into the enterprise as we see stronger Vista rollouts in 2008." Enterprises will use various approaches to support both IPv4 and IPv6 for several years, he says.

Early Adopter Lessons

CIOs starting to explore the IPv6 issue can learn from the approach of early adopters like engineering and construction giant Bechtel. By 2003, the U.S. Department of Defense, a big Bechtel customer, had called for departmentwide deployment of IPv6 by 2008. Bechtel began seeing RFPs from the

U.S. Army and other customers explicitly calling for IPv6 products and services. So in 2004, Bechtel launched a phased, enterprisewide deployment of IPv6 "designed to develop broad awareness and competence in the new protocol, with the initial deployment focused on our government business unit," says Fred Wettling, Bechtel fellow and technology strategy manager.

The company sees an opportunity to create an IT infrastructure that will be "a platform for future innovation," he says. "This is a technology that can transform the way we do business."

Wettling says Bechtel sees IPv6 as an enabling technology, as the Web was in the 1990s. For example, the company is exploring how IPv6 will help with wireless sensor networks to help track logistics, and with mobile ad hoc networks that can be set up quickly at the start of a project.

Bechtel's IT group tried to minimize the problems and costs associated with a broad technology change by using a planned, gradual approach spanning several years. This included sending 3 dozen people to an "IPv6 boot camp" run by Native6 (now part of Command Information, a provider of IPv6 training and services) and creating an IPv6 lab to perform distributed configurations and testing without putting Bechtel's production network at risk.

"We set up small IPv6 labs at four locations, each with a few servers, routers, switches, and put them in isolated networks within each office and interconnected them across the Internet," Wettling says.

By the end of 2006, Bechtel had enabled IPv6 on the production networks and hundreds of computers at four of its primary sites, and created a scalable model for future deployments.



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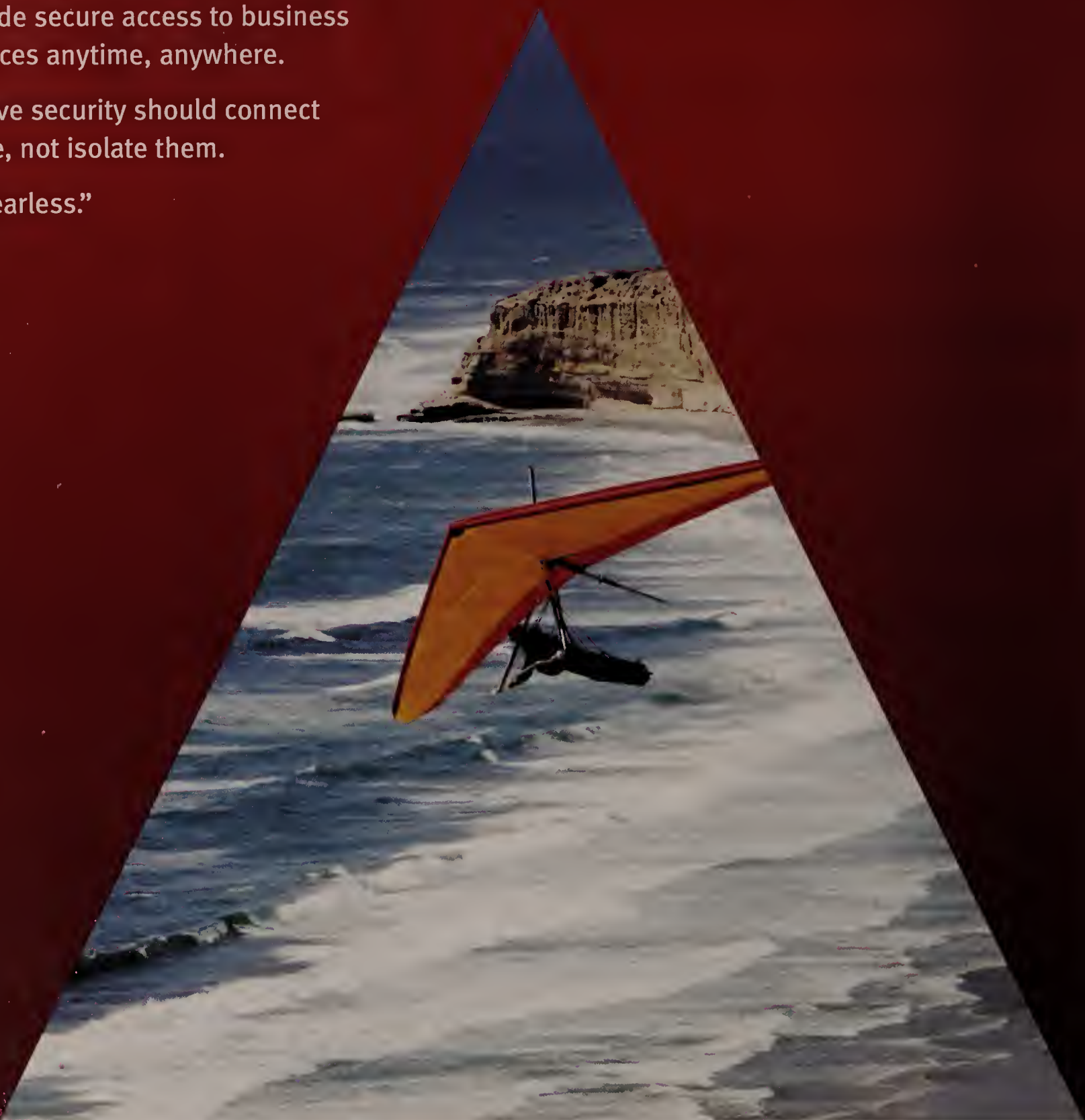
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The company instructed all its application developers on how to configure machines for IPv6. Today, Bechtel has more than 9,000 computers (desktops, portables and servers) in 70 cities worldwide running IPv6. The majority of its offices support IPv6, and the company is turning on other offices one at a time.

Hardware Hiccups

What challenges did Bechtel encounter on its road to IPv6? While most of the applications weren't affected by the change in IP version, several presented problems. First, some databases weren't set up with big enough fields to accommodate IPv6 addresses and had to be expanded.

Also, not all commercial or internally developed applications have the needed IPv6 attributes in them. Some of Bechtel's monitoring and configuration software had to be tweaked to display IPv6 data.

"Not all products out there [such as Windows XP] have the IPv6 features we want," Wettling adds. "XP doesn't fully support IPv6 as well as [Microsoft's] Vista does." Bechtel will start deploying Vista later this year, he says.

For these reasons and others, aeronautics manufacturer Lockheed Martin figures its move to IPv6 will be a huge undertaking. "The transition to IPv6 will require a greater effort than the Y2K bug," says Frank Cuccias, director of Lockheed's IPv6 Center of Excellence. "Remember that Y2K only affected a subset of systems; IPv6 will affect almost all current systems."

Lockheed Martin, given its many government customers, began looking at IPv6 seven years ago in its labs. The company is in the midst of a pilot program to convert part of its Global Vision Network to IPv6. So far the program is progressing well, Cuccias says.

China's IPv6 Plan

What's the vision for IPv6 on the other side of the globe? See **INTERNET STRATEGY: CHINA'S NEXT GENERATION INTERNET** at www.cio.com/article/22985.

cio.com

"We realize that if our customers are going transition to IPv6, we need to be out in front of the technology," Cuccias says. The company launched the pilot "to illustrate to our customers that it's not as simple as buying new IPv6 hardware and turning it on," he says.

Government agencies are among the earliest adopters of IPv6, largely because of the mandate. The U.S. Government Accountability Office (GAO) completed an inventory of its hardware and software, and assessed which were not IPv6-compliant, says CIO Joseph Kraus.

The agency also conducted a network assessment of how IPv6 traffic is transmitted from the Internet and GAO's private network. "As part of a planned upgrade of our network infrastructure [scheduled for 2008], we included IPv6 compatibility in our specifications," Kraus says.

During its prep work, the agency learned that its network service providers weren't able to transmit IPv6 packets and needed to upgrade their infrastructure.

Another potential IPv6 challenge is developing network engineering expertise, says Korn/Ferry's Demeter. "While IPv6 presents several advantages over IPv4, it requires the engineering and systems operations talent to design, build, and maintain the network to maximize its potential and to justify the investment," Demeter says. "We have the talent in-house, but we need the time to build the expertise in this new area."

What's the bottom line for CIOs outside the government sphere right now? Despite the gradual depletion of IPv4 address space, Gartner's Willis sees no urgency to adopt IPv6. "There is no real driver besides the IP address shortage," he says. "What this means is that we'll be living in a mixed IPv4/IPv6 environment until well past 2013. Fortunately, coexistence of both protocols is easy, although it will drive support costs up while we are in this mixed environment." **CIO**

Bob Violino is a New York-based freelance writer. E-mail feedback to letters@cio.com.

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“Hello, I Must Be Going”

By heeding these six warning signs, you'll get a jump on your next career move



While it is never much fun to look for a job, it is far less enjoyable when you're unemployed. When you are out on your own, you are not as squarely on the radar screen of recruiters, and you may have an air of desperation about you that can be pretty unattractive to a potential employer.

It is a far better strategy to start your job search early and interview while you are still with your current employer rather than to wait until you “need the job.” It's easier for a CIO to make a career move from a position of strength (read: employed).

With that in mind, here are six warning signs that it is time to dust off the Rolodex, get networking and update your résumé. Use them to assess your situation and to determine whether it's time to make a move now.

1. You report to the CFO now, not to the CEO.

Once the CEO restructures and puts you under finance, he or she is sending a clear sign that IT is not strategic; it's a cost center. Unless cutting budgets and watching your pennies is your thing, it is probably time to get out.

2. You've gone as high as you can go.

When John von Stein, currently CIO of Options Clearing Corp., had been VP of IT at Cargill for several years, he knew that the next level up, the CIO role, was one that would not be open to him for some time. So he assessed the likelihood of a move over to the business side as a division president.

“I came from the commercial side of business earlier in my

CIO2CIO 2 PERSPECTIVES

Today's IT Leaders on Market Trends

HOW TO AVOID THE HIDDEN PITFALLS ON THE ROAD TO SOA

The case for a comprehensive data services framework

Service-oriented architecture (SOA) holds great promise as the enabler for a new generation of more agile and cost-effective

IT solutions, but unfortunately, it has failed so far to live up to expectations. That's because, in their zeal to realize the benefits promised by early SOA hype, customers and technology providers have overlooked a crucial component to the success of any SOA initiative. That is, they've ignored the data.

SOA offers a way to deconstruct enterprise applications into reusable and sharable "services," bringing agility to business processes by eliminating the walls between applications. But in breaking down these silos, SOA forces the data contained within them to be exchanged seamlessly between disparate applications and business processes. This free-flowing exchange requires a systematic and consistent approach to data management and integration within a SOA. Customers who have undertaken the path to SOA have recognized that SOA presents a number of data-centric challenges such as:

- **Heterogeneous data sources** distributed across the enterprise and beyond
- **Inconsistent** and constantly changing data structures
- **Poor data quality** that is often difficult to measure or monitor
- **Lack of agreement** or visibility (single-view) into critical information assets

Traditionally, SOA vendors have ignored the need to take a data-centric approach to SOA in order to proactively address these challenges. SOA projects

are doomed to fail if they do not incorporate a comprehensive enterprise information management strategy using a data services platform to address these widespread and expensive data problems. Where once it was believed that SOA might lessen the need or ease the burden of data integration, it's now understood that SOA intensifies the need for data integration and data quality. Without a comprehensive approach to data integration and data quality,

SOA can result in bad data being propagated to more applications and being used by more users, faster than ever before.

"SOA does not permit you to abdicate responsibility for data integration issues—it increases the criticality of addressing them," notes Gartner analyst Ted Friedman in his recent report, "Data Integration for Strategic BI and Beyond" (Gartner, Inc., Gartner Business Intelligence Summit, March 12 – 14, 2007.)

The State of the SOA Market

These sobering discoveries aside, SOA adoption is accelerating. According to a new study by IDG Research, 91 percent of CIOs are planning, evaluating or piloting SOA projects. Contrary to conventional wisdom, 72 percent are approaching SOA from the bottom up, meaning they're starting their move to SOA by building granular,



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reusable services from existing IT assets, rather than by taking a top-down business process redesign approach.

In making a business case to support SOA projects, 73 percent of CIOs said improved productivity was the primary driver, while 64 percent hope SOA will improve IT response time to business requests. Other drivers, according to CIOs, include improved customer service levels and better accuracy and visibility into customer information.

Since SOA concepts and technologies are so new, it's no surprise that 51 percent of CIOs say the lack of skills and training is hindering progress. Forty-nine percent are hampered by inadequate funding, and 37 percent are frustrated by the dearth of SOA best-practice guidelines.

Most often, those surveyed said they're building data access services like customer lookup as the first step in their move to SOA. A similar number of customers reported designing an end-to-end business process as the starting point to SOA.

The Case for a Data Services Platform

A study by the Data Warehousing Institute found that poor-quality data costs U.S. businesses hundreds of billions of dollars a year. If the data stuck inside siloed applications is bad, imagine the calamity when, through SOA, the silos disappear and data from many different applications is commingled. Bottom line, interconnected applications aren't worth anything if the data within them is flawed.

A comprehensive data services platform is the solution for data integration within an SOA framework. Data services platforms reconcile and define the structure and semantics of data so that, when accessed by any user anywhere on the system, the data has already gone through a number of appropriate steps involving access, profiling, transformation and cleansing, making it ready for consumption.

One example: A data services platform enables companies to build services to define a customer across all business processes. Once that has been defined, it's mapped to all representations of that customer.

A data services platform must be a part of any SOA initiative because it resolves inconsistencies and inaccuracies.

Data integration will account for a growing percentage of the overall integration market, particularly as SOA projects take hold. As businesses strive to reduce latency and become more "on demand," data ownership and integration become increasingly important. This trend will be reinforced as businesses adopt such industry standards as SWIFT, ACORD and HL7 to exchange information with partners in their value chain.

Of course, data integration is very complex, and often made even more so by applying monolithic solutions. When business demands require new data—as they always do—companies are forced to spend too much time and money updating their systems.

Data services (with hooks into master data) are flexible and modular, so that data is defined, reconciled, corrected and delivered in a holistic way.

CIOs are starting to get the message. In fact, more than half of

survey respondents say that customer data integration will be most positively affected by their SOA initiatives, followed closely by master data management.

Conclusion

The case for service-oriented architecture is being increasingly accepted as a way to drive business agility. SOA breaks down barriers between enterprise applications to enable the reuse of services across an enterprise. But many customers and technology vendors may assume that SOA makes data issues irrelevant. In fact, just the opposite is true. SOA places new demands on data because it creates more components to manage. A comprehensive data services platform that includes access, discovery, cleansing, integration and delivery therefore, must be an integral part of any SOA initiative because it resolves real world data integration issues such as data fragmentation, data inconsistencies, poor data quality and lack of data visibility. Only then can customers begin to realize the true benefits of SOA. ■

Go to www.cio.com/whitepapers/soabenefits now to obtain a free download of the complete white paper "How to Avoid the Hidden Pitfalls on the Road to SOA." Based on a major research survey by IDG Research Services featuring in-depth discussions with CIOs at midsize and enterprise-class organizations, this just-released white paper aims to help CIOs analyze their systems and IT businesses to run more effectively and efficiently, and it draws on peer insights to create highly available and manageable systems.

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It is not unusual for a job search to take six months or more, particularly if you have geographic limitations or are targeting a specific industry or narrowly defined field. If signs point to a less than positive future, start your search now.

career, so I expressed interest in going back as a business unit leader," he says. "Not much materialized there for me since most business units had their own pipeline filled with people already. After 18 months or so it became obvious that neither 'up' nor 'over' were going to work out for me at Cargill, so 'out' was the only alternative left."

3. Your company is on the block.

If the parent company announces its intention to sell your division, your future will most likely take one of three paths. None of these scenarios are particularly appealing.

- ☐ In the typical cost-cutting that happens before a sale, you will be asked to downsize your organization.
- ☐ You will be asked to take a package and leave yourself.
- ☐ Once the sale takes place, you will be replaced by the CIO of the acquiring company.

Of course, it is possible that the sale of your division will provide new opportunities for you in the acquiring company, but it is better to have a job search under way as you wait to find out. But even if the acquiring company offers you a new job, you still need to think long and hard about whether you want to take it.

Join the Conversation

Respond to Martha Heller's latest online column by visiting www.cio.com/author/116802.

CIO.com

Greg Bixby, now CIO of Capital Bancorp, was CIO of Republic Bancorp during its acquisition by Citizens Banking in 2006. In the final phases

of the acquisition, he was offered a role managing all of the back-office deposit operations, facilities and procurement. While this would have been a job on a larger scale than his previous CIO role, Bixby turned it down.

"After helping to build a company for 13 years and instilling my philosophy into how we managed technology, I realized that I was too attached and would not deal well with any loss of control," says Bixby. "When a company merges, everybody is in turmoil. I reasoned that if I'm going through all of that change, I'd rather do it on my own terms. I'd rather go out and select a new company than have a company select me."

4. You're a turnaround CIO in maintenance mode.

When I talk with CIOs who are ready to make a move, I often hear them say, "I fixed everything and now I'm bored." If you,

like so many CIOs, are a change addict who gains gratification from bringing order to chaos, it is time to move on when you've steadied the ship and can put it on autopilot.

In the best of circumstances, once you've turned around an organization, you are in a position to innovate and help grow the company. However, not every company can invest in enough technology-driven innovation to keep you challenged, and not every CIO can handle slow, incremental growth. If you love a big mess, go find another one.

5. You hate your new boss.

In order to work effectively, members of a management team need to have some rapport. Chances are that you took the job—in part—because you were excited to work with the person hiring you.

If that person leaves, and his or her replacement possesses characteristics and opinions that are anathema to your own, it may make sense to begin a job search. Perhaps you have thrived in a consensus-driven organization, and your new CEO's command and control approach doesn't work for you. As you spend the time doing your best to nurture the new relationship, you can evaluate new opportunities as they come along.

6. Your industry is failing.

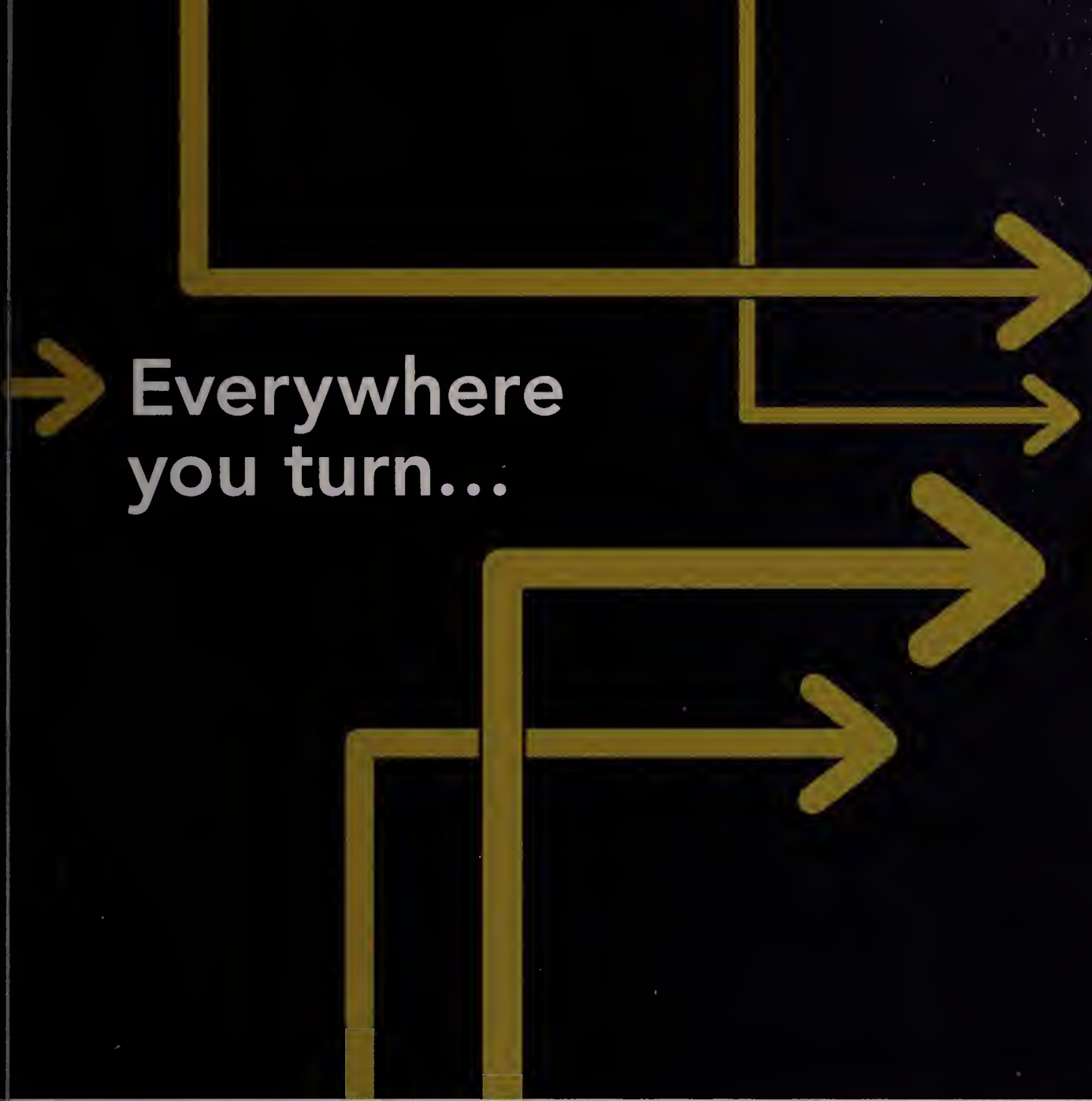
It is a courageous move to stay with a company that is dying but cannot reinvent itself to survive. You will gain valuable perspective, build character and have enough lessons learned to fill a book. Once you've gained all that you can from helping a company try to survive in an industry that isn't making it, you might consider moving to an industry in growth mode. (It's much more fun.)

It is not unusual for a job search to take six months or more, particularly if you have geographic limitations or are targeting a specific industry or narrowly defined field. If signs point to a less than positive future in your current organization, start your job search now.

Ask anyone who has ever put in a disaster recovery plan: It's a lot easier to plan for disaster than recover after it strikes. **CIO**

Martha Heller is managing director of the IT Leadership Practice at ZRG, an executive recruiting firm in Boston. Reach her at mheller@zrgroup.com.





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When Web 2.0 Goes Wrong

Companies that want to foster online communities first need to think about the best way to engage their customers



There's a right way and a wrong way to do Web 2.0, and unfortunately, too many companies are finding the wrong way.

Case in point: I took my son to see the movie *Ratatouille* on its opening weekend, and I expected it to be crowded after reading the rave reviews. The last time we just showed up at the cinema—to see *Happy Feet*—we had the unique and unpleasant experience of watching the movie from the front row; I thought it would be prudent to purchase tickets online from Fandango.

We saw the movie. It was great. Much fun.

The next day I got an e-mail from Fandango asking me, a member of the Fandango community, to review the movie. Member of the community? I bought some tickets. A transaction, not a relationship.

A couple of days later I received another e-mail reminder that I hadn't, as a member of the Fandango community, taken the opportunity to review the movie.

I work with lots of companies on open-source applications as well as Web 2.0 implementations, and community is a common thread in all of them. When I talk to companies about building community, I always stress that first you deliver value, then you ask for engagement.

Fandango didn't do that. We engaged in one kind of relationship—a transaction—and the company assumed that meant it could treat me as a friend. How is unwelcome e-mail addressing you as a community member significantly different than spam? Especially when I didn't respond to the first request? There is a phrase for this kind of thing: overly familiar. In other words, behaving as if there's more relationship than there is and asking for more disclosure than is appropriate.

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A Transaction Is Not a Relationship

Since I never volunteered to be a member of the Fandango community, nor, for that matter, to review movies for it, I decided to take a look at my Fandango profile. Sure enough, it had a check mark in the "ask me to review movies" box. The only thing is, I never would have agreed to do that, so I must have missed the opt-out during registration (or else it was well hidden). So I immediately opted out.

I get some of the same kinds of invitations to write reviews from Amazon, so I decided to look at my profile there. Amazon does offer several opt-out options. Interestingly, however, there isn't an opt-out for "ask me to review things I bought." So, at least Fandango gives me an option to avoid these irritating invitations. On the other hand, I just shrug off the Amazon invites, while clearly the Fandango thing put a burr under my saddle. Why the difference in reaction?

Well, for one thing, I've gotten lots of value from Amazon for years, so it's earned some slack. Also, Amazon's value for me is really tied up with user reviews. So, even though I don't usually want to participate in them, I understand the purpose of the e-mail.

Fandango, on the other hand, hadn't delivered any community value. It sold me a ticket. It's great to bypass the lines of people who begin thinking about which movie to see only when they get to the front of the line, then, once they've chosen the movie, act surprised when asked to pay and begin fumbling for their wallets. Just for that, Fandango should be saluted! But because I didn't have any community relationship with the company, I saw its e-mail as a clumsy attempt to foster a faux relationship.

How to Build a Community

What could Fandango have done differently to get me participating in its community? Remember, value precedes engagement.

The company could have figured out how to deliver additional value to me before asking me to do something for it. For example, during the selection process, it could have offered me an opportunity to see reviews from people who took their own children to see the movie; I'm always concerned about the level of innocence in a movie, and the official ratings can be more tolerant than I am. Even though Fandango would run the risk that

those reviews might put me off from seeing it at that time, if you're really committed to a relationship, don't you sometimes sacrifice short-term gain for longer-term

Because I didn't have any relationship with the company, I saw its e-mail asking me to participate in its community as a clumsy attempt to foster a faux relationship. The company could have figured out how to deliver additional value to me before asking me to do something for it.

engagement? If I read some reviews and was convinced to see the movie, Fandango could ask me afterward to contribute a review. At that point, since I'd received value from the reviews, I'd be much more likely to engage with the community and contribute something back.

I'm sorry to pick on Fandango so much, but my experience illustrates the difficulty companies have as they grapple with this new, more transparent world. It's always harder to maintain a relationship than to engage in a transaction, which is why service businesses are always tougher than product businesses. Merely slapping some Web 2.0 decoration on a website without investing in your relationship with customers is like putting lipstick on a pig.

The Right Way to Engage Customers

It can be different. I recently saw Rob Curley of the Washington Post online speak. His group brings Web 2.0 community to the paper's online efforts in a very natural way that provides real value. One of Curley's projects has been to interview "regular" people in the Metro D.C. area, capturing the energy and diversity of the local community in a series of short online videos. Suffice it to say, the Post's community engages people and offers new ways for a troubled business to make money; that is, Web 2.0 is helping the company overcome the decline of the newspaper industry. At other newspapers where Curley has worked, he created new ways to engage the readership online: Once by encouraging reviews of restaurants, churches and live theater by seniors in Naples, Fla., and another time in sports-mad Lawrence, Kan., posting interviews with the players on every youth baseball team.

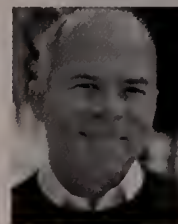
The move to transparency and customer engagement is very real and moving fast. Thinking through how you'll accomplish it in a way that provides value to the customer is critical. **CIO**

More About Web 2.0

To learn about how you can use new Web technologies in your business, read **ABC: AN INTRODUCTION TO ENTERPRISE 2.0** at www.cio.com/article/123550.

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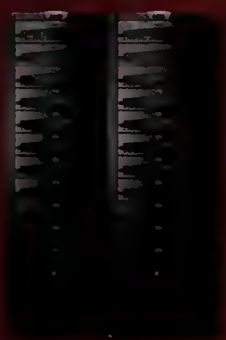
Bernard Golden is CEO of Navica and the author of *Succeeding with Open Source* (Addison Wesley, 2005). This column is adapted from his blog, The Open Source, on CIO.com. To comment on this article, go to advice.cio.com/bernard_golden/the_dark_side_of_web_2_0.





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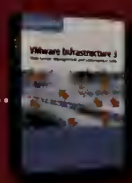
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CIO EXECUTIVE VIEWPOINT

Deriving Value from VoIP

Move Beyond Mere Collaboration and Start Focusing on Business Process Automation

**Donald E. Brown, M.D., Chairman of the Board,
President, CEO & Founder, Interactive Intelligence Inc.**

Dr. Brown is a successful entrepreneur, now at his third software company, Interactive Intelligence, which he founded in 1994. His previous companies were acquired—one by IBM, the other by EDS. Brown graduated from Indiana University School of Medicine in 1985, and also earned degrees in computer science and physics. He has been honored multiple times for his innovation and entrepreneurship.

Voice over Internet protocol (VoIP) is about more than simple collaboration. "It's about weaving communications into core business processes so you can make more money and operate more efficiently," says Dr. Don Brown, president and CEO of Indianapolis-based Interactive Intelligence. That's how CIOs derive real value from VoIP investments. Read on for more insight from Brown.

What impact has the resurgence of VoIP had on telecommunications?

In the '80s and '90s, there was an IT revolution that changed the business world with the automation of processes. Unfortunately, telecommunications was left largely on the sidelines. But with voice over IP, the wall between the two has come tumbling down. VoIP has effectively turned telecommunications into another form of data, so the endless possibilities afforded by IT are now available to communications.

How do you compete with companies 10 times your size?

We have grown our applications organically over a decade, so we can offer a true single-platform, unified communications software suite instead of the collection of third-party

brand new. In fact, it is a new term that describes a converged architectural and applications approach that has defined our product offering since its first release in 1997. If you think of UC within the context of a "communications technology stack," the infrastructure elements are at the low-level, while applications that address core business functions reside higher up the stack. UC, which was initially thought of as basic collaboration features, is just one level up from the bottom, but clearly it is an evolving term. Increasingly, UC is being defined more broadly as the convergence of all business communications segments. This is where we focus—the higher-level applications that enable business process automation—and this is where we believe customers derive the greatest benefit from UC.

What advice would you offer CIOs for getting the most value from their VoIP investments?

We advise CIOs not to limit their view of VoIP investments to basic collaboration. That capability can be achieved by just about any system. There's a lot more that communications technology can and should do to provide value. CIOs need to look at

"VoIP turned telecommunications into another form of data, so the endless possibilities afforded by IT are now available to communications."

components assembled through acquisitions that our competitors offer. The net result of our approach is faster deployment, lower cost of administration and management, and all the benefits that come from working with a single vendor.

What's your perspective on unified communications?

Many vendors are talking about unified communications (UC) as if it's something

the core processes used to run the enterprise and interface with customers. That's where communications technology can be utilized to add real value.

What innovative technologies today get you most excited?

Just like any technologist, I get excited about cool new technologies such as video, speech recognition and so on. But sometimes it's easy to get caught up in the glitz and lose

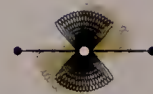


track of how technology is going to help the enterprise make more money. So, as a businessperson, what really interests me are innovations that enable my organization to achieve its mission of serving customers more effectively. It's great to have new technology, but it's the application of that technology—namely, automating key business processes—that proves to be most exciting.

What is the biggest mistake that companies make when migrating to VoIP?

Companies tend to overestimate the capabilities of their networks. They think that since their networks are adequate for data applications and have good bandwidth between sites, that they will perform well for VoIP. But VoIP introduces new demands on the network infrastructure that can be overlooked, so companies should seek guidance to be fully prepared for the steps they need to take to successfully utilize VoIP.

For More Information: Check out this white paper, "Internet Protocol Communications on the Brain", at www.cio.com/whitepapers/ininvoip.



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BY
MATT
VILLANO

TO CALL CLYDE THOMAS A HIGH PERFORMER would be an understatement. As CIO and executive vice president of global operations and technology for eFunds, a \$600 million financial services company, Thomas logs nearly 70 hours a week on the job. He oversees five data centers in the United States and two abroad, managing 450 people who serve 6,000 users overall. He is responsible for the company's software engineering, call and data centers, and security. He is also building new enterprise projects in China and Eastern Europe.

Thomas typically works from 5:30 a.m. until 6 p.m. or 7 p.m., answering all 300 of his daily e-mails before heading out for the 30-minute drive home. Rough days stretch longer. Some nights he'll participate in an overseas conference call with network administrators and other IT managers at 2 a.m. or 3 a.m. Then there are emergencies, which require his immediate attention.

"We do millions of transactions every minute. If something goes wrong with our technology, I want to make sure I'm involved in fixing it," he says. "Do I like handling conference calls [after midnight]? No. But if you're running operations for a company of this size, you do what you must."

Thomas is not the only one working nearly 70 hours a week these days; CIOs are racking up serious hours in just about every sector. Recruitment firm Harvey Nash released a March survey of 172 CIOs that found nearly 20 percent worked more than 56 hours a week. About 4 percent put in more than 65 hours a week.

CIOs have always logged long hours; it's what you do in IT. But now these work habits dovetail with the rise of "extreme jobs." The Center for Work-Life Policy (CWLP), an independent research organization that works with employers on work-life guidelines, released a study last year that defined extreme jobs as those in which employees work at least 60 hours per week, receive hefty salaries and feature at least five of 10 characteristics from a list that includes availability to clients 24/7, an unpredictable flow of work, lots of travel and an inordinate scope of responsibility (see "Are You Extreme?" Page 36). Study authors Carolyn Buck Luce, a principal and global pharmaceutical sector leader with Ernst & Young,



InterContinental Hotels CIO **Tom Gonophy** logs major air time in his job. He stays productive by reading, working on his laptop and sketching systems designs.

and Sylvia Ann Hewlett, president of the CWLP, call these jobs "extreme" with a nod to extreme sports such as the Ironman triathlon and bungee jumping that require participants to risk life and limb to compete at the highest levels.

While the study didn't specifically look at the CIO position, the job easily meets most of the extreme criteria. The CIO role may in fact be among the most extreme in business, says Luce.

What Makes CIOs Extreme

CIOs are at the nexus of three forces driving business today: a global economy, the

technologically enabled ability to be in touch 24/7 and the increasing reliance of business on IT. These factors, coupled with six-figure salaries (CIOs earned an average salary of \$185,000, according to our "2007 State of the CIO" research), create an environment that helps foster an extreme work style. (To see the most recent "State of the CIO" data, go to www.cio.com/state-of-the-cio/2007/.)

"Work has become extremely interesting these days, filled with talented people, new experiences and new frontiers. CIOs are right in the middle of that," says Luce.

The CWLP study found 66 percent of



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extreme jobholders love what they do and thrive on the pressure. So do many CIOs. But this brave new world of extreme work is not without costs. Long hours can negatively impact family and personal life: 50 percent of study respondents, for instance, indicated their jobs made it “impossible” to have a satisfying sex life. Personal health also suffers. More than 69 percent of respondents said they would be healthier if they worked less extremely. Other studies find personal productivity can fall off due to greater mental and physical fatigue associated with overwork.

Finally, hard-charging CIOs and other executives run the risk that watching the boss work 60 or more hours a week may turn off the next generation of leaders.

It wasn't supposed to be this way. Technology was going to liberate us from the tyranny of work. Instead, the legions of laptops, cell phones, BlackBerrys and other wireless devices that allow executives to increase

their productivity also keep them tied to the office via e-mail, instant messaging, voice mail and text messages. The line between work and home is blurring. Taking care of business these days often means working anytime, anywhere.

CIOs are reluctant to discuss the downsides of “being on” nearly all the time. That's not surprising given the nature of the role, say work-life experts. “A CIO is not going to have anything close to balance,” says Cali Yost, author of *Work + Life: Finding the Fit That's Right for You*. “That job is never going to be nine-to-five.” What CIOs can do, she says, “is find a fit that works for them in a job that may require a 24/7 scope.”

The high performing CIOs we spoke with combat the challenges of their jobs with strategies designed to help them stay productive and to maximize control over their schedules and lives. But the question remains: Are these strategies enough?

Are You EXTREME?

Check the 10 characteristics to see where you stand ☒

Consultants Carolyn Buck Luce and Sylvia Ann Hewlett put extreme jobs on the map last year when they unveiled a study of some of today's toughest and most consuming careers. The research consisted of two surveys: one of high earners across various professions in the United States, the other of high-earning managers in multinational corporations.

Respondents qualified as extreme if they worked at least 60 hours per week, took home big salaries and held jobs that met at least five of the following 10 criteria.

1. Unpredictable flow of work ☐
2. Fast-paced work under tight deadlines ☐
3. A scope of responsibility that amounts to more than one job ☐
4. Work-related events outside regular work hours ☐
5. Availability to clients 24/7 ☐
6. Responsibility for profit and loss ☐
7. Responsibility for mentoring and recruiting ☐
8. Large amount of travel ☐
9. Large number of direct reports ☐
10. Physical presence at workplace at least 10 hours a day ☐

According to the study, the four characteristics thought to create the most intensity and pressure among survey respondents were unpredictability (cited by 91 percent), a fast pace with tight deadlines (86 percent), work-related events outside of business hours (66 percent) and 24/7 client demands (61 percent).

—M.V.

The Extreme Job, Defined

Extreme jobs are everywhere. They have emerged in accounting and manufacturing, finance and medicine, entertainment and the law, as companies struggle for mastery in a global economy, according to the CWLP. It's the CIO's job to keep a company's computing and communications lines constantly humming—along with the workers who rely on these tools.

Customers expect systems to function perfectly all the time. Business leaders expect problems to be resolved instantly. Typical CIOs respond to these demands by playing the hero, doing whatever it takes to meet the challenge.

These realities—along with intense competition for top jobs—have combined to create a workday with no real beginning or end.

The unpredictability of the IT environment also keeps CIOs on their toes. A vendor issues an unscheduled upgrade. Servers crash without warning. Out of nowhere, a hacker unleashes a distributed-denial-of-service attack. CIOs need to make sure that they and their staffs are ready for anything that comes their way. This preparedness has a consequence: long hours.

Just ask Raymond Dury, CIO of Fifth Third Bancorp in Cincinnati, a holding company that operates more than 1,150 branches in the Midwest and Florida. Dury sets the IT agenda and facilitates business strategy to achieve corporate goals. A big part of his job is enabling the processes and people required to efficiently manage customer transactions 24/7. He estimates he works 55 to 60 hours a week. Much of this time is spent managing on-time delivery of projects and ensuring the quality and reliability of systems, including some 12,000 ATMs belonging to Fifth Third and others.

Dury, who has two children in college, usually starts his days before 7 a.m. They don't end until 6 p.m. or later. Some nights, Dury says, he logs in to the company's network from home to ensure timely communication about decisions and to respond to urgent e-mails. He is sometimes awakened in the middle of the night by his staff if there are incidents requiring executive decision.

“Funds and transfers are always coming in and going out,” he says. “Because of the business we're in, there's never a green zone,



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"No matter how much you love your job, it's important to value something else," says BearingPoint CIO **Eric Goldfarb**.

never a moment where you can sit back and just coast."

As a result, Dury has created teams to respond quickly to any incidents that require immediate attention. However, critical outages may still involve his input. If there's a security breach, for instance, he may need to work with security administrators to secure the network perimeter. Dury says such demands can be challenging. Still, he doesn't face these challenges alone; contractors in India assist with overnight processing and deal with minor incidents when things go wrong.

Since arriving at Fifth Third last November, Dury has also worked with his

team to devise processes and procedures for improvements in quality, delivery and financial efficiency of business initiatives. For example, Dury and his team completed a new data center that improved production operations and system recoverability.

The Work "High"

Tackling such challenges keeps IT leaders engaged. They are not alone: The CWLP study found that many of the most extreme professionals don't feel exploited; instead, the long hours make them feel exalted. Sure, many who keep these hours are exhausted at the end of a long week. For some, however, this exhaustion is a badge of honor.

Dr. Betsy Williams, clinical program director at the Professional Renewal Center, a behavioral health services center, explains that the drivers for this kind of behavior differ for everyone. In some cases, she says, certain high performers simply "have the Type A personality" and derive pleasure from working long and hard.

Eric Goldfarb, CIO and executive vice president of BearingPoint, a management and technology consulting firm, regularly puts in 70- and 80-hour weeks handling technology for company offices in more than 60 countries. On the afternoon he spoke with *CIO*, he had been in the office since 6 a.m.

Goldfarb considers himself a "turn-around specialist." He was brought in last year to help BearingPoint expand its business and IT capabilities. His responsibilities are always changing, and he likes it that way. He says turning around an underperforming IT department is a high.

In his first 12 months at BearingPoint, Goldfarb's primary challenge was to provide structure, direction and motivation for his team. Once he achieved that, the challenge was to rebuild the corporate intranet. Next, he was charged with opening offices in several countries, including Afghanistan.

Goldfarb looks back on these accomplishments with enthusiasm. "Some people consider what they do professionally as 'work' or a 'career,' but I chose a profession that was my hobby—working with IT and helping businesses use it to become profitable," he says. "It's never easy, but then again, when something is easy, it's usually pretty boring."

Of course, not every CIO thrives on the pressure. In some cases, Williams says, that hunkering down at the office can indicate a lack of fulfillment elsewhere. Perhaps a CIO's home life isn't as good as it once was. Perhaps work is the only place a CIO can feel on top of things. Williams says that in some instances, a "hearty dose of narcissism" might even be at play.

"Some people have this view that if they don't do it, nobody will," she says. "That's not a healthy way to run anything."

What Time Is It in Tokyo?

Globalization ensures that IT departments work around the clock. As companies diversify into foreign markets, business leaders

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expect CIOs to manage systems at remote locations just as they would those at home. Overseeing work in multiple time zones increases not only a job's travel requirements but also the length of the workday. According to work-life consultant Yost, this can be particularly problematic for CIOs.

"A CIO is tasked with using constantly changing technology to achieve a corporate strategy that is most likely global and therefore 24/7," says Yost. "The primary question is, 'How do I manage technology and time zones to get my work done and have a personal life, instead of technology and time zones managing me?'" (See "Riding the East-West Express," Page 42.)

Tom Conophy, executive vice president and CIO at the InterContinental Hotels Group, has logged plenty of flight time. InterContinental has hotels in 100 countries, and Conophy handles technology and operations for all of them. He's responsible for 750 IT professionals worldwide and regularly works between 80 and 90 hours a week. Overall, Conophy estimates that he's logged more than 1 million air miles since he joined the company 14 months ago. His most common route is between his office in Windsor, England, and the company's U.S. headquarters in Atlanta. He also flies regularly to properties in the Far East. Conophy stays on top of his responsibilities by staying productive in the air (see "Leaving on a Jet Plane," at right). He works on his laptop until the batteries run out, then he catches up on his work-related reading. He also sketches on graph paper; he says some of his best system designs have been created in the air.

"Airplane time is quiet time since the phone isn't ringing and e-mails aren't pouring in," he says. "Of course, once I get to where I'm going, I jack in, upload what I've accomplished and get moving at full speed all over again."

The Expanding Manager

As IT moves from supporting the business to driving its growth, CIOs and other senior technology leaders have taken on more responsibilities. It's not uncommon for CIOs to act in another executive capacity, perhaps as COO or CSO. For these leaders, a 50-hour workweek won't suffice.

Sometime around 5 a.m., well before the

Leaving on a JET PLANE

Tips for surviving long-haul flights

Flying across the country or across the world is just part of the working day for some CIOs. These road warriors get down to business as soon as the wheels go up. How do they stay productive in their offices in the sky? "Avoid the alcohol, drink as much water as you can handle, take two aspirin, and eat the fruit instead of the sweets," suggests Tom Conophy, executive VP and CIO at the InterContinental Hotels Group. That's good advice, according to business travel advocate Ted Celentino, who is also the author of *Combating Air Rage*. Celentino offers the following tips to help travelers stay healthy and make the most of the ride.

1. Get out of your seat. Casual exercise is key to staying healthy on long plane rides. Walk the aisle or stretch in the back of the plane to stay limber and avoid deep vein thrombosis, a rare but real hazard on long-haul flights.

2. Power up. What good is a dead laptop? When you book your seat, request a row with power outlets. To plug in you'll need a special adapter; buy one and keep it with your laptop. Another tactic: Bring extra battery packs. Or plan a layover that leaves you time to recharge in the airport.

3. Pack a mini laptop. Some savvy travelers take both a regular laptop and a mini on board. Why? You can still see the mini's screen and keyboard if the guy in front of you reclines.

—CIO Staff

orange sun crests the blue horizon east of Massachusetts Bay, John Halamka rises to begin his day. From his home office, the physician and CIO of both CareGroup and Harvard Medical School logs on to the corporate network, checks his e-mail and dives into work. By 8 a.m., he has scarfed down breakfast and penned concepts for a strategic plan. Then he heads for the office.

Halamka's responsibilities have grown exponentially over the past few years. He is now responsible for 40,000 users, 110 terabytes of data and 16,000 computers. He multitasks wherever he goes. During a recent interview, he shared a photo of himself at the top of a 13,000-foot mountain with his BlackBerry, handling a major controversy about personal health records standards during a break on a hiking trip.

"Being a CIO is like being an actor in a play; you never step out of character," he offers. "I can never say, 'It's Saturday at 3 a.m. and mission-critical systems don't exist.' So I've learned to work responsibilities into my everyday life."

He heads home most nights around 6 p.m. for dinner with his wife and 14-year-old daughter but fires up the computer again

after 8 p.m., answering e-mail and working for two more hours before practicing a Japanese flute to wind down for the night. It's a 16- to 18-hour day. He says he wouldn't have it any other way.

"To me, being a CIO is not a job, it's a lifestyle," he says. "When I got into this business, people told me it was a 9 [a.m.] to 5 [p.m.] job, but I'd say it's really a 5 [a.m.] to 9 [p.m.] job, and there's nothing wrong with that."

Mary Crouch has taken a different path. Crouch is now CIO of Laughlin Memorial Hospital in Greeneville, Tenn. In her previous job, Crouch regularly put in 60 to 70 hours a week handling operations and security issues as both CIO and CSO of the Phelps County Regional Medical Center in Rolla, Mo. As if that weren't demanding enough, Crouch was working on a B.S. in health care—a program that required her to be in school for five hours a night on Tuesdays and Thursdays and left her with 30 hours of homework each week. Do the math. She spent nearly 100 hours working each week.

Crouch coped by delegating most day-to-day IT management chores to her three assistant directors. She hired most from inside the hospital and personally trained each



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of them in areas such as incident response and help desk. She also used money from the general IT budget to pay for external training and classes to supplement what they learned on the job.

"My job is to have a vision," she says. "When you work as hard as I do, it's key to have people who can tackle the day-to-day stuff and make decisions without having to come to me to make every single choice."

Riding the East-West EXPRESS

Three tips for managing across time zones

Strong coffee. A can of Jolt. An alarm clock that could wake the dead.

These may be great tools for pulling an all-nighter, but they're not what you need as a CIO who manages work across time zones. So how can you keep your systems running 24/7 (while getting your own system some shut-eye) when your company has offices in New York, Mumbai and Los Angeles? Work-life strategy consultant Cali Yost, author of *Work + Life: Finding the Fit That's Right for You*, offers the following advice.

1. Analyze the work that needs to get done over a typical 24/7 period. Define your optimal work-life schedule and then get others involved to cover the rest. Be strategic about using your people. You can't do it all.

2. Take a tag-team approach to managing technology. Trade off responsibilities and take turns with the "middle of the night" shift for global group meetings. Everyone in every zone can't work 24 hours a day and neither can you.

3. Challenge your definition of personal success. Look at the pressure you may be putting on yourself. Challenge your assumptions. Don't let the fear of being seen as a slacker get in the way of brainstorming a creative solution to the time zone problem. Yost says this is the hardest thing for high-achieving individuals to do. —CIO Staff

Earlier this year, when the hospital's e-mail system crashed, Crouch assigned an assistant to oversee damage control. By spreading the responsibility, she says, she insulates her team from working too hard.

The Price You Pay

Crouch's strategy worked for her and her staff members, but being an extreme CIO isn't all a series of highs and fat paychecks. There are drawbacks to working this long and hard.

While 70- and 80-hour workweeks can be exciting, that sort of intensity can cause productivity to suffer, leaving some leaders spinning their wheels. In fact, productivity decreased by as much as 25 percent when

white-collar workers put in 60 or more hours per week over a long period, according to a 2003 study by Circadian Technologies.

Fifth Third's Dury usually accomplishes all of his tasks in a given week. But he says there are days where he feels he can't get out from under the to-do list. "Those are the days where I get home and I think to myself, 'Can I run like this forever?'" he says. "Of course, they're usually followed by totally exhilarat-

husband for more than a few minutes.

The couple does spend weekends relaxing and playing golf together, but their busy schedules (he's a hospital plant manager and goes to school at night as well) make weekdays trying and sometimes, as she puts it, "lonesome."

Grueling hours also present challenges in child-rearing. Nearly 58 percent of CWLP survey respondents said work got in the way of their relationships with their children. Moms with extreme jobs do better than dads in this area; survey results indicated that almost two-thirds of men admitted that work takes a toll on parent-child relationships, as opposed to just one-third of women.

InterContinental CIO Conophy says he sometimes feels challenged by balancing work and family. He loves his job but acknowledges that spending so much time on the road "isn't ideal." He may go days without seeing his three daughters, ages 18, 17 and 5, although he notes that he tries to be home every Saturday morning to cook them a pancake breakfast. Conophy says that his family "doesn't seem to mind" the hectic pace and that they make it a point to take four or five vacations together every year, some for as long as 10 days.

BearingPoint CIO Goldfarb says that while his travel schedule can get pretty hectic, he has not missed any of his children's baseball games or school events. Still, he notes, there are times when he's brought his BlackBerry to the games.

"It's a constant learning process," he says, "figuring out how to fit everything in."

Overwork can have costs at the corporate level as well, such as burnout and retention issues. Half of extreme jobholders said they don't want to continue working under this kind of pressure for more than a year, according to the CWLP study. Williams, the psychologist, adds that if CIOs (or any executives, for that matter) put in such long hours for more than 18 months, it's perfectly natural for some of them to begin thinking about finding employment in a less-demanding situation.

Many of these sentiments are generational. The CWLP study and others indicate that the so-called Gen X and Gen Y cohorts seem less enamored of their jobs, less willing to work around the clock, than baby boomers. Cam Marston, president of consultancy Marston Communications, says that workers between the ages of 21 and 35 are more

ing days, but the point is that everyone gets challenged from time to time."

There are other drawbacks. Nearly 69 percent of respondents in the CWLP study said they believe they would be healthier if they worked less extremely. They're right. Multiple studies have linked excessive overtime to employee health issues, including high rates of heart disease, high blood pressure and work-related injuries, according to Circadian.

The CWLP study also found 46 percent of extreme workers said work got in the way of good relationships with their spouses. Crouch says that during particularly busy weeks in her last job, she would sometimes go from Monday to Friday without seeing her



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likely to place a priority on personal time and to be outspoken about getting it.

"The younger they are, the more they want to get to work, do their job and go on to whatever's next, whether it's hiking, video games, or life with the wife and kids,"

take time out of every day to focus on something other than technology. "No matter how much you love your job, it's important to value something else," says Goldfarb. "In this business, if you just focus on all technology all the time, you'll go nuts."

"I can never say, 'It's Saturday at 3 a.m. and mission-critical systems don't exist.' So I've learned to work responsibilities into my everyday life."

—John Halamka, CIO of CareGroup and Harvard Medical School

he says. In the case of industries rife with extreme jobs, he adds, "this could become a major problem down the road" as older workers with different work ethics hand the reins to members of this generation.

Staying Sane

Will it always be all work and no play for the CIO? Not necessarily. The CIOs we spoke with say they have devised coping mechanisms that allow them to carve out personal time and remain focused in the face of such intense work pressures. That's smart, say the experts: Establishing boundaries between work and life is critical to staying sane and maintaining high performance. "You have to manage it to achieve your goals," says work-life consultant Yost.

Conophy recently trained for and completed the London Marathon and always brings his running shoes when he travels. Even on the most hectic days he tries to squeeze in a 10- or 11-mile run. Goldfarb interrupts his morning e-mails each day to brew double shots of espresso for himself and his wife made with coffee they roasted themselves. He says this ritual forces him to

Some CIOs manage to disconnect completely. During the summer, many try to take at least a week-long break away from the office. (Read "Five Tips for Getting the Vacation You Need" at www.cio.com/article/124251.) That doesn't just mean leaving the laptop at home for a couple of hours; it may mean traveling to places where mobile communication is virtually impossible.

From December until March, Halamka spends one day each weekend ice climbing, a sport that involves conditions so cold that BlackBerry batteries freeze up and die. He also rock climbs in Yosemite for two weeks in August. Dury of Fifth Third vacations for a week to 10 days in the far northern reaches of Canada, where there is no cellular signal, no Internet connection and few hardwired phone lines. Dury says he still thinks about work for the first day or so but generally starts relaxing by the third day.

"Your mind enters a state where it looks more at the whole of the operation, as opposed to the urgent things that happen on the day-to-day," he says. "Then, it hits you—you've worked all those hours to put a recovery system into place. Your staff and processes are taking excellent care of the commitments to the business. Then you realize everything will be all right." **CIO**

Matt Villano is a freelance writer and editor based in Healdsburg, Calif. Send feedback on this story to letters@cio.com.

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CIO EXECUTIVE VIEWPOINT

Service-Oriented Architecture

Achieving Change-on-Demand Agility in Today's Dynamic Enterprises

Barbara Angius Saxby**Chief Marketing Officer, Ramco Systems**

Barbara drives global marketing strategy and program execution for Ramco. She has 20-plus years of strategic management and international business experience in enterprise applications and infrastructure technologies, and has supported more than 30 companies as a strategic management consultant.

"As IT infrastructure becomes more commoditized, business content is king," says Barbara Angius Saxby, CMO of Lawrenceville, New Jersey-based Ramco Systems. "Your business value is in your business processes." To better manage them, CIOs need the "change-on-demand" agility that comes with service orientation. Saxby offers the following insights into the state of SOA and business applications.

How are CIOs transitioning their focus from cost containment to competitive advantage?

In the old days, all IT decisions were based on reducing overhead and development costs. Today, service orientation and process modeling enable enterprises to react faster and take advantage of business opportunities, while still helping reduce these costs.

Why is there a gap between business process modeling and today's enterprise software?

Historically, IT departments have solved process challenges by using a variety of discrete modeling tools that represent workflow, but they are manual and static. They map a particular business process at a given point in time, and developers still write lines of code to describe it. But now you can go from the model to software much faster. With dynamic modeling techniques, you model a business process and create a set of business services that make up the actual application.

"Service orientation lets you model software to your business, so you can quickly change any process."

What is the key to achieving change-on-demand agility?

The ability to model business processes and then quickly convert them into applications is what allows for change. The components

are stored as business services, so if you need to modify a particular process, you simply change the rules or the flow for the one process. Change-on-demand improves agility, because instead of finding and rewriting specific lines of code in an application built on a server, you can simply remodel and implement the change quickly.

What role does SOA play in business alignment?

IT departments are able to react faster with SOA, because of its more natural alignment with the business. However, traditional packaged software applications tend to present a process with the expectation that you'll train your whole company to work that way. SAP applications, for example, are notorious for this. Service orientation, on the other hand, lets you model software to your business—not the other way around—so you can quickly change any process. This is the real promise of SOA.

How are CIOs achieving such innovations in the real world?

An example is Preferred Meal Systems, a distributor of packaged lunches to school and airlines, which required a change-on-demand model to execute its business. Not only does it have to get new contracts up and running quickly with a host of unique dietary requirements but it must also utilize all of its perishable goods. This represents a change-oriented, customer-driven approach to manufacturing. They're able to update and modify processes in just a matter of days—even in a very extensive and complex ERP system—which is revolutionary, really.

What should CIOs think about when building a business process platform?

They must consider several key components: an integrated environment to assemble applications, a repository to store business services and the analytics capabilities to view and track end-to-end processes. And, of course, a partner with extensive



"prebuilt" business services and strong domain expertise and consulting experience, who can get where you need to be much faster.

Why must the business process platform be separate from the infrastructure?

Being locked into your infrastructure components and proprietary vendor stacks stunts flexibility. With a business process platform approach, business services remain separate from the infrastructure; the business logic is abstracted and can be deployed in any environment. Keeping them separate gives you a lot more flexibility and agility to do the things you need to, from both a time-to-market and a cost-efficiency standpoint.

For More Information:

Check out this white paper, "Ramco's Business Process Delivery System", at www.cio.com/whitepapers/ramco



IDENTITY CRISIS: Pfizer's Fix

BY LAURIANNE MCLAUGHLIN

By 2003, pharmaceutical giant Pfizer found itself with a costly business problem: Paper. Reams of paper. Mountains of paper. Pfizer was up to its neck in the stuff.

Any drug research project generates masses of paper, including documentation that must be signed and tracked for legal and patent-protection reasons. And all that paper needs to be categorized, filed and stored—a costly, time-consuming and labor-intensive process. “[Research] has always been an intensely paper-filled process,” sums up Leslie Holbrook, Pfizer’s director of worldwide business technology.

“Literally, you can fill a tractor trailer.”

All enterprises churn out paper, but the pharmaceutical industry generates more than most, as its business involves an especially high level of documentation to navigate a dense web of government regulations and to protect itself against the specter of looming lawsuits. “A digital signature is a tremendous driver in a pharmaceutical environment,” says Holbrook. To wit, every document Pfizer could sign digitally would be one less piece of paper it had to manage and store. And then there’s the issue of speed. Pfizer’s research groups must sign, date and have witnessed every single entry in their lab notebooks. That’s about 14,000 signatures a month. Just in case one of those entries might turn into a patentable product, Pfizer wanted the earliest possible date on each entry. But with researchers having to wait to find the right person to witness the entry, that wasn’t happening.

Paper gets in the way of work. At Pfizer, a new process for digitizing ID management reduced a paper mountain to a molehill and produced unexpected business benefits.

Reader ROI

- :: How digital signatures can save time and money
- :: Lessons learned from a smart card project
- :: The future benefits of digitized ID management

Pharmaceutical, finance and healthcare enterprises, among others, are now being pushed to digitize signatures for reasons of security and compliance, says IDC's Sally Hudson, research director, security products and services. (IDC is a CIO sister organization.) In a nutshell, digital signatures lower costs and decrease complexity while increasing security, she says.

"Compliance regulations are going to become more specific and intricate over time, and the penalties for noncompliance will be strictly enforced," Hudson says. "The use of digital IDs and electronic contracts will become more commonplace over the next several years."

But necessity is not the digital signature's only mother. IDC believes that the move to digital signatures, when complete, will make compliance with government regulations easier and less costly, protecting companies as well as consumers. Hudson sees digital evidence increasingly being accepted as proof in courts of law, and online contracts becoming legally acceptable.

In other words, companies that perfect their processes for digital signatures and ID management will gain an immediate competitive advantage over those that don't.

Who's That Knocking On My Door?

While grappling with its paper mess,

Pfizer was also wrestling with a second, security-related problem: Whenever Pfizer acquired a new company, it also acquired that company's building access control systems, which are difficult and expensive to change. "Your CIO isn't going to be excited about swapping out a control system," Holbrook says, because of the cost. But the mishmash of access systems made IT management chores complex, and it frustrated the many Pfizer employees who constantly move among sites.

Pfizer's IT group saw an opportunity to address both issues: digital signatures and ID management. Could they kill two birds with one smart card system?

Yes, they decided, and using a cost-reduction argument, they won support from the business for a smart card-based ID management system that would enable digital signatures, standardize building access and handle PC network log-ons.

5 Quick Tips for Integrated ID Management

Pfizer's move to digital signatures and smart cards came with more than a few hard-won lessons

1. UNDERSTAND YOUR BUSINESS CASE, COLD. "This is the only bleeding-edge technology project [that I've worked on] that I felt had an iron-clad business case," says Leslie Holbrook, Pfizer's director for worldwide business technology. "We had a hard business reason to push this."

2. BUILD A ROBUST PLATFORM. Don't skimp on memory or chips for your smart card. Pfizer is seeing the ability to add Java applets to its cards pay off—for example, with a new biometrics application. "Blow it out," Holbrook says, meaning leave room on the smart cards for unanticipated uses. You don't want to have to go out and redeploy cards after a short time.

3. LEAVE TIME TO CRAFT POLICIES AROUND CERTIFICATES AND PASSWORDS.

"Our digital signature policy had about 100 authors," Holbrook says. "I'm not sure how long it took, but it's a sure cure for insomnia." You'll also have to decide who'll own the policy when it's done. At Pfizer, HR, risk management and internal audit groups own the policy.

4. PARTNER WITH LEGAL. Also, bring in outside help to give your IT and legal staff advice on the bleeding-edge issues. For example, Pfizer had to confirm precisely what kinds of digital signature policies needed to be attached to its lab research notebooks.

5. MAKE SURE YOUR PEOPLE ARE FLEXIBLE. "Being on the bleeding edge always hurts a little," Holbrook says. "You need a team that can roll with the punches. It's just not standard development work."

—L.M.

Lessons Learned While Making a Smarter Card

Theoretical work on the smart card project began in 2002, and Pfizer IT began getting its resources together in 2003. "It was definitely an IT-driven project," says Scott Potter, Pfizer's senior director of worldwide business technology and Holbrook's boss. What's more, it was bleeding-edge technology. So the pressure was on.

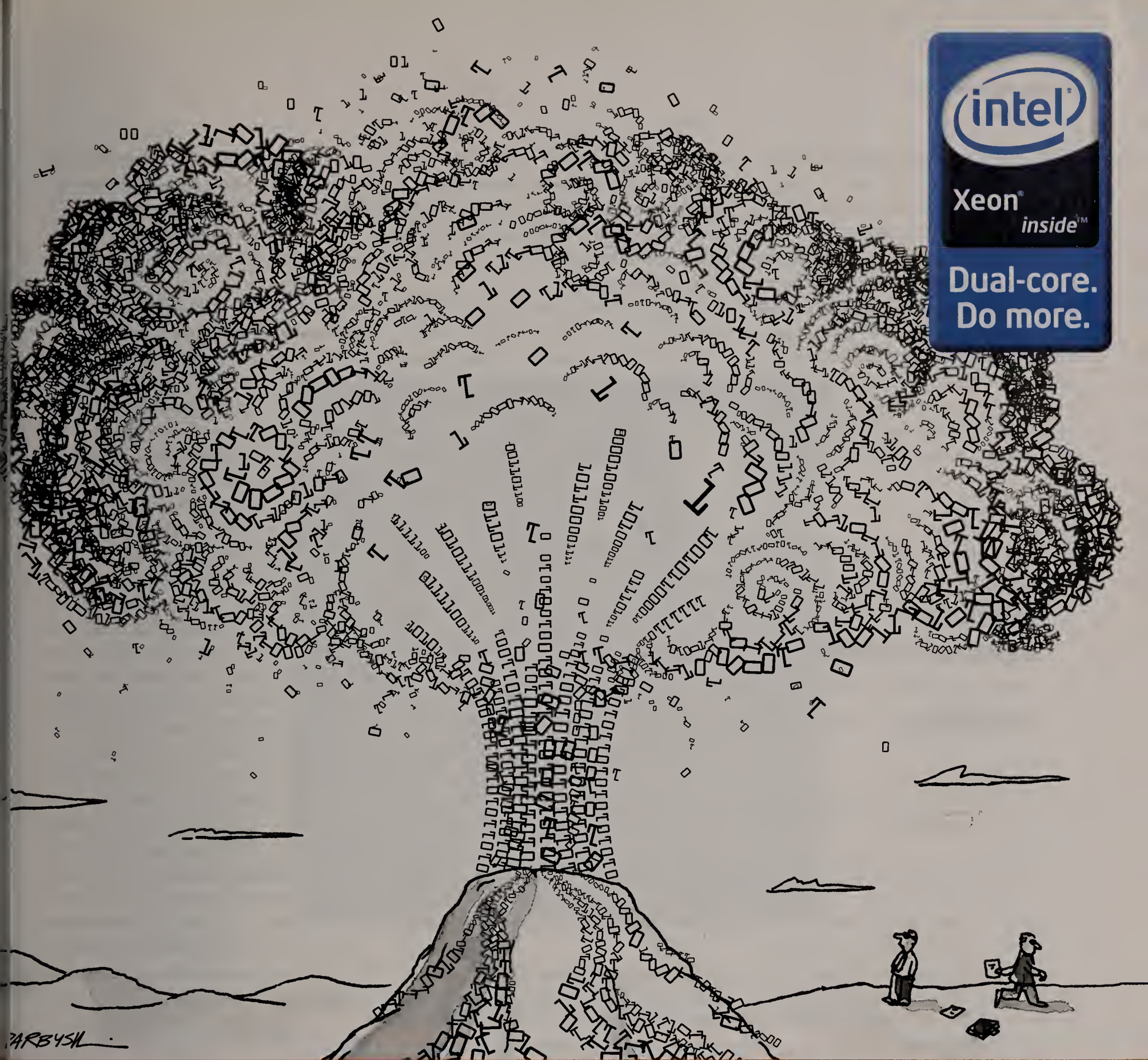
The first lesson IT learned was that if you're doing an ID management overhaul, don't expect to find pretty, prewrapped packages. Pfizer's IT group could not find an off-the-shelf smart card product that offered enough power and flexibility.

"We wanted to be able to support other uses going forward," Potter says. For example, the Pfizer IT team wanted as much memory on the smart card as was practical. So the IT team decided it would need to create its own card.

"We basically designed this platform ourselves," Potter says, noting that Pfizer brought together two vendors, Gemalto and HID Global, to provide parts of the smart cards.

The card itself has a 64KB Gemalto Java Module chip that houses the PKI credentials and certificate information for digital signatures, and two HID chips, one of which houses the physical access control information and one that supports add-on applets for applications like biometric security. Because the cards are based on a Java OS, Pfizer can change or add Java applets after the cards are issued.

HID did the manufacturing, as a subcontractor to Gemalto. Pfizer's IT people soon found themselves caught up in quandaries that are usually the realm of physical engineering experts. The plastic for the cards proved tricky, Potter says. It was hard to pack everything into the size card needed.



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"We had a real question about durability and thickness," he says, noting that no one else had developed a card like this one, with its three chips and two antennas.

What did Pfizer's IT people learn during this part of the project? To work with its vendors as if they were partners, Holbrook says, and avoid the temptation to tell the vendor that the manufacturing problems were their headache. Also, she says, Pfizer learned not to go crazy customizing every piece. "As much as you can, try to stick to out of the box," she says, noting that too many tweaks only make

This, in turn, encouraged researchers to have their work signed off on in batches instead of in timelier snippets of data, says Holbrook. Conversely, the digital signature technology allows researchers to sign and date the day's entry immediately.

But that wasn't the end of the benefits Pfizer began to reap from its smart cards.

"We were somewhat surprised by how much of a benefit cross-site access was," says Holbrook. Pfizer employees quite commonly work at many sites, going back and forth. Under the old system, they had to

he says, a meeting leader can use the cards and reader to control and track who attends, guarding against corporate espionage.

Pfizer employees can even use the cards for cashless vending at company cafeterias.

And Now for the ROI

Holbrook says that the smart card project's ROI is hard to pin down precisely. Pfizer IT has worked with its vendors to drive down the cost of the badges, from about \$30 at the start to about \$13. (At the beginning of the project, Holbrook points out, no one knew how to price the card because it didn't exist. Also, some R&D costs were loaded into pricing and the vendors didn't know what to expect in terms of future volume.)

Pfizer estimates the cost of one "wet signature" at \$30 (including time to track down the signer, plus storage and scanning costs; some analysts put the cost as high as \$125). Today, one smart card, with its almost unlimited number of digital signatures, costs \$13, plus \$70 for a three-year license for the high-assurance PKI credential. Pfizer uses a Microsoft digital certificate authority for some in-house signatures, but it partners with Citibank to license the SAFE high-assurance PKI credential for signatures subject to outside scrutiny. (SAFE—"signatures and access for everyone"—is a pharmaceutical industry consortium.) Anecdotally, Pfizer's use of FedEx to ship documents for signatures has also dropped, Potter says.

Innovation Ahead

Pfizer plans to take the technology to new places, Potter says, including biometric applications recently installed at some Pfizer facilities. The smart card stores the user's thumbprint, which is matched by a reader at the door. One benefit of this system, Holbrook notes, is that Pfizer doesn't need to maintain a big database of stored thumbprints—a serious privacy concern, especially in Europe, where privacy regulations are more strict than in the United States.

"There's plenty of room to innovate on this platform," Potter concludes. **CIO**

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Pfizer is using **mobile smart card readers** at training classrooms **to track who attends**. At offsites, the cards **guard against corporate espionage**. And employees can use the cards for **cashless vending** at the company cafeteria.

it harder to get the badges, badge readers, desktop PC client software and other pieces to integrate.

Another lesson was to "make sure you have a primary subcontractor," says Potter. Deciding who was going to be the alpha dog was, he says, a bit of a challenge. "We eventually put that on Gemalto," which had the bulk of the digital signature expertise, he says, instructing it to make sure the Gemalto and HID pieces fit together.

In 2004, Pfizer rolled out the finished smart card badges across its global research and development staff. That's 20,000 to 30,000 employees, plus a roughly equal number of contractors.

Smarter Cards, Smarter Results

Within Pfizer's research groups, digital signatures, enabled by the smart cards, are transforming those previously unwieldy lab notebooks. Despite Pfizer's need to date the lab entries ASAP in order to create evidence for potential patents, researchers used to wait to date the entries because it wasn't always easy to track down an appropriate person to witness a signature.

physically register at a visitor center before getting down to work. The smart cards let them use an online system to register to work at an alternate site, then swipe the card there. "Once people heard about that capability, they asked for the badge outside of R&D," she says.

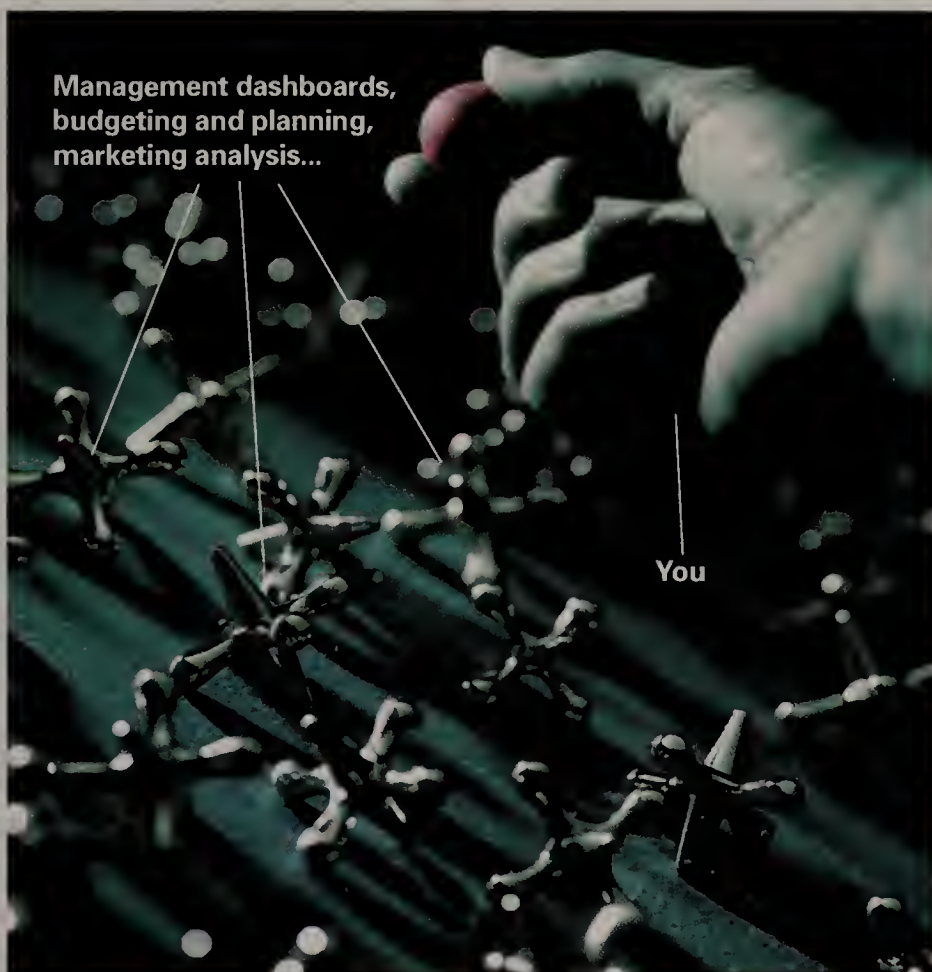
There was a tipping point of such requests last fall, and IT decided to roll out the smart cards across the corporation to roughly 90,000 to 100,000 users.

The smart card project's reach continues to expand, says Holbrook, as people find uses for the cards that Pfizer didn't foresee. The company is now using readers at the door of training classrooms to keep track of who attends. Training records are a big deal in the pharmaceutical industry, as some training is mandated. Employees also use the cards and readers for what Potter calls "access control in a box." For sensitive offsite meetings,

The ABCs of ID Management

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TO ALIGN OR ... ELSE!

IT SERVICE MANAGEMENT CAN PROPEL IT TRANSFORMATION

By ensuring high service levels, IT becomes a strategic business enabler, providing employees with the support they need so that they can better serve external customers. Equally critical, the IT group is better able to align services with business goals, helping to increase velocity in today's fast-moving markets through speedier and more cost-efficient change management and more robust, automated workflows.

For many IT organizations, the desire to achieve this degree of partnership and alignment with the business is driving the adoption of the Information Technology Infrastructure Library (ITIL) best-practices framework for IT service management processes—as well as solutions that support it and other process, governance and compliance guidelines.

A recent IDG Research survey reveals that the No. 1 IT initiative today—and the top driver of IT investments—is aligning IT and business goals. The No. 2 initiative: Improving the efficiency of service delivery. At the same time, IT leaders view building and retaining customer loyalty as one of the top three challenges they face.

EDGING TOWARD ALIGNMENT

Improving the efficiency of service delivery in tighter time frames is a key initiative today for nearly 60 percent of respondents to the IDG Research survey. Indeed, it is this accomplishment—which requires the standardization of IT processes—that will do much to help IT leaders move the needle on business-technology alignment.

But IT organizations face a potential pitfall if they don't choose a next-generation IT service management solution that has been architected from the

ground up to support best governance practices such as ITIL, ISO 20000 and COBIT, compliance requirements such as Sarbanes-Oxley, a true configuration management database (CMDB), open standards-based integration, and modern service-oriented applications.

"The architecture is something you don't think of every day, but the architecture of a service management solution is something you live with every day," says Kevin J. Smith, vice president of products at leading IT service management vendor FrontRange Solutions. "If you don't have the right architecture it becomes a real

barrier to making these systems successful."

AUTOMATE AND INTEGRATE

On the IDG Research survey, 47 percent of respondents considered automating workflows to be the process in greatest need of improvement. In the service management realm, applications often are not flexible enough to help a business automate customized workflows that are critical to their requirements.

Process automation is dead in the water without strong integration. To automate incident, problem, change or other service management tasks requires input from numerous applications, legacy systems and data sources. FrontRange Solutions' ITSM, for example, includes an open and standards-based integration capability based on XML and web services that lets customers readily move information into and out of systems, and enable communication among diverse data sources.

Great service management solutions not only enable internal employees with the tools to serve customers better but also can improve support for external customers. Both audiences will benefit from next-generation service-level management that supports automatic escalation to Level 2 or 3 agents and remediation processes, as well as continuous redefinition of service delivery and agreements to enable customized and personalized services.

Those who develop an IT service management strategy and ground it in a solid and open architecture will be poised to redirect IT resources to new business initiatives, a top initiative over the next 12 to 24 months for one-third of the companies surveyed. Those that don't may still be hearing fire bells ringing the same time next year.

47 percent consider automating workflows to be the process in greatest need of improvement

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According to **Comcast CIO ANDY BAER**, service-oriented architecture is not about architecture, and certainly not about technology. It's about billing, ordering, customer service, human resources, payroll—you know, business. And that's where the benefits lie. BY CHRISTOPHER KOCH

Service-oriented architecture, or SOA, has moved from buzzword of the moment to a concept that has absorbed the attention of CIOs at enterprises large and small (but mainly large). According to CIO's 2007 "State of the CIO" survey (www.cio.com/state/stateofcio.pdf), 25 percent of respondents were already working on their SOA, 12 percent were planning to start this year and 21 percent defined it as a long-term goal.

An architectural strategy that attempts to build all the software assets in a company using the service-oriented programming methodology and then integrating them through Web services, the grand vision for SOA is to enable business people to take control of modifying, mixing and matching the different applications defined as services (for example, "get customer

credit record" or "find invoice") together into new process combinations on their own. The idea is to prevent the business from having to wait, twiddling their thumbs, while IT develops new applications customized to their needs. The advantages of this strategy are obvious: increased agility; an improved

Reader ROI

- :: When you should consider SOA
- :: What kinds of businesses are unsuited to SOA
- :: The importance of IT governance to ensure application reuse



"I would say that you really shouldn't be looking at revamping your architecture if you don't have a dynamic business. Why spend the money to swap out any of your infrastructure if it's working for you?"

-COMCAST CIO ANDY BAER

understanding of business processes and therefore an increased ability to make business process improvements; faster time to market; organic IT-business alignment; and, because the services can be reused, IT is freed up to innovate. The problems are just as obvious: Building an SOA is time-consuming and hard, and it requires a great deal of patience and commitment from both IT and the business. (For a tutorial on SOA, see "ABC: An Introduction to SOA" at www.cio.com/article/40941.)

Andy Baer, CIO of Comcast, has developed an internal IT strategy around SOA (which he has implemented using a suite of tools from BEA's WebLogic and AquaLogic product lines) that aligns technology to meet his company's business needs and objectives. He also oversees the integration of the IT organizations in former Time Warner and Adelphia cable systems recently acquired by Comcast. He spoke with *CIO* about how to maximize the business benefits of SOA.

CIO: What do you see as the primary business reason for doing an SOA?

Andy Baer: What you're really getting out of SOA are a couple of really big business benefits. You're getting reuse of a lot of the assets which you're spending money to develop. So you're getting much more value out of the dollar that you're investing in technology because you're able to use things more easily. That's number one.

Second, you're getting quicker time to market. Because you're able to assemble components more easily, you can extend those components more easily so that as the business changes, you're able to react more rapidly to those changes.

Here at Comcast, for example, we have two billing systems: 60 percent of customers are billed on one, and 40 percent are on the other, mostly as a result of our acquisition of AT&T Broadband. We had applications that needed access to the billing system; developers had to write the same APIs [Application Programming Interfaces] twice to access each of the billing systems.

One of the first things we did was to create what we call a billing services mediation layer. Now the developers write

the APIs once, to the service layer, rather than to each billing system. That saves money, but it also gives my staff the opportunity to add functionality into the Web services layer themselves without having to go to my billing vendors, which is a lot more cost-effective and a lot more timely.

And, if at some point in time I need to change anything with my back-end billing systems, I can do it without having to change the other applications that link to it because they are connected to the service layer rather than directly to the billing systems.

How do you distinguish between SOA and enterprise architecture?

I don't believe that SOA *is* enterprise architecture. SOA is an enabling technology, but it's not enterprise architecture. You need to have a vision of your business and describe your business in an enterprise architecture, which can be implemented by Web services, SOA or not. I think SOA is an enabling technology for that enterprise architecture, but it isn't by itself enterprise architecture. Enterprise architecture is required regardless of whether you implement that by SOA or not.

Can you describe your enterprise architecture at Comcast?

I think of enterprise architecture [EA] as business architecture. So I don't think of technology tools; I think about billing, ordering, customer service, human resources and payroll. To me, those are the components, and understanding how I want to break down business functions into macro-level services and understanding the relationships between them is what creates my enterprise architecture. Some people think of enterprise architecture more along the lines of enterprise technical architecture, meaning what the standard middleware software package is going to be across the enterprise, for example. And yes, I have that, and yes, that also relates to SOA, but to me that's not as important as business architecture.

EA is also a road map to make sure that every project we do is in the context of the architecture vision. Our enterprise architecture identifies all the various technology compo-

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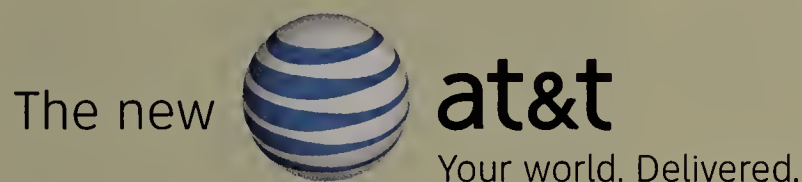
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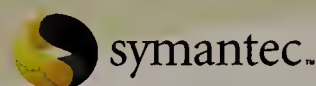
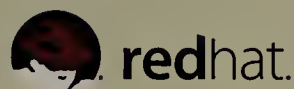
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nents that we need to run our business, but its purpose isn't just to paint a future vision; it also attempts to eliminate redundancy across projects. So if you take two projects and put them in the context of this enterprise architecture, you may see that they are related to the same component in your enterprise architecture. So you may want to combine the projects or stop one of them.

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"The biggest challenge to software reuse, in my experience, has been governance. The reason that it's a challenge is because by nature software engineers and architects have a 'not invented here' syndrome."

Can you talk a bit more about your vision for SOA?

I'll give you the big functional components. Billing is one. Provisioning (setting up cable TV in a new customer's home, for example) is another big area where we've already made quite a bit of progress. Many of our provisioning systems have been deployed in an SOA model of services, which helps us then build the composite end-to-end.

[Cable] network management is another focus of SOA. We're building a Web services middle tier that is going to allow us to reuse a number of network management tools in different ways. One is to link to the tools inside a portal for our customer service agents to make it easier for them to troubleshoot cable problems with customers. We've also exposed the tools to handhelds that our techs are going to have out in the field. And ultimately, we'll expose those tools to our customers so they can check [their own] status anytime as well.

By following this SOA model, we're building a middle tier for network management that will then be reused for multiple purposes across the company. In addition, we're moving toward a complete Web services model for all of order management, not just provisioning.

So, piece by piece we're creating macro coarse-grained services that are implemented as a composite application made up of underlying services. Those services will be incorporated into other composite applications as part of our enterprise architecture.

So you're building the base-level components at this point.

It's the base business building blocks, correct. There are infrastructure components which underlie all these, some of which are already built or are in development. So, in addition to the business components, you've got technical infrastructure components—things like authentication and authorization and identity—but those are being created as part of all these other applications that we're building. We're building out the infrastructure layer to support those larger business components.

Let's talk about some of the myths and realities. When is an SOA not really worth a CIO's time and effort?

I would say that you really shouldn't be looking at revamping your architecture if you don't have a dynamic business. Why spend the money to swap out any of your infrastructure if it's working for you? Not only is it a lot of energy to go through this exercise, it's also a relatively newer technology so the skill sets are harder to come by and you're

going to be competing for talent with organizations that are growing. The people who have these skills want to work in a growing environment because it's more fun. Companies that are static or in decline will have a harder time finding people.

Some people are challenging the idea that reuse is going to be a big benefit of SOA. Some estimates say reuse is only about 10 percent to 25 percent. Others are asking why reuse should be a strategic goal when you may find a better way to design a service the second time around.

We're already seeing reuse here. The biggest challenge to reuse, in my experience, has been governance. The reason that it's a challenge is because by nature software engineers and architects have a "not invented here" syndrome. Every time there's a problem to solve, they believe that they have a better way of solving it. And that using someone else's code, or using someone else's service, is not going to be as good as if they reinvented it themselves.

So I think that a governance model is really important to fostering and encouraging reuse. Everyone I talk to about governance says, "Oh yeah, that's a really big problem in our organization." I would say we are working hard on it here, but I don't think that we've solved it either. We've already seen some benefits of

Making the SOA Pitch

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having an architecture review board in place that reviews all our big projects and can suggest ways to reuse services.

Maybe one of the differences here is that we're growing so rapidly and there's so much work to do that people aren't worrying about whether they'd like to reinvent things because they don't have the time. If they can find something to get the project done quicker, they're reusing it.

For example, the billing services we've created have already been reused four times. That's partly because we set up an architecture review board that lets people know that there are services out there that can be reused.

What would you say are the key jobs of the architecture review board?

The review board is responsible for helping, at least at the initial stages of a project, with the service architecture. Things like, "So what should the macro services be? And how do they relate to things that already exist?" The review board also maintains the business enterprise architecture, which is never static. And they are available as internal consultants for projects to help make decisions that are architectural in nature.

The architecture review board is not just a technology organization; we've created it as a subcommittee to our product steering committee so it will be more business focused.

How does that work?

The product steering committee comprises all the product owners across the business and is responsible for approving all new business product-related projects. We attached the architecture review board as a subcommittee so it would not become a technology group for technology's sake, but a technology group that's responsible for supporting business projects.

It's one of the lessons I've learned having done SOA three or four times in different organizations. The last time I did an architecture review board we did it as a technology group and it didn't work nearly as well.

Do you have an example of a product that's gone through this process?

Recently, we were enhancing some of the features that we want to provide for our customers in video on-demand. The project team designed an architecture that we brought to the architecture review board. The board took a look at it and found a way to cut several months off of the development schedule by reusing some of the capabilities that existed within the provisioning engine and within the new billing system we put together.

"SOA is an enabling technology, but it's not enterprise architecture. You need to have a vision of your business and describe your business in an enterprise architecture, which can be implemented by Web services, SOA or not."

What other aspects of governance work well?

I'm still learning how to do it, but one is to have a registry, or repository, of services so you can publish and keep documentation about the services that you're building.

Another big piece is having an examples library of services that we think work particularly well. That's been almost more powerful than anything else here. People ask what a good service looks like, but the examples aren't just code, they are a library of every artifact throughout the whole lifecycle. So what does the design look like? What does a test plan look like?

Another consideration is when you're introducing a lot of middleware technology to enable SOA, you don't want every part of the company going out and figuring out how best to implement those technologies independently. You want to coordinate the configuration of your middle tier centrally, not just to support the application, but to configure it for the best performance and operability.

SOA veterans say it's difficult to determine the right level of granularity for a service—what should be included within it and what shouldn't. Can you offer examples of how you approach this?

Sure. Let's take billing as an example. We have a coarse-grained service called "charging," which includes everything from billing and taxing to bill presentment. Each one of those has its own composite service. What we're trying to do is make sure that people are consistent in how they implement services.

A fine-grained service within "charging" might be "accounts hierarchy." I'm going to let an individual team manage that service rather than taking it to the architecture review board level.

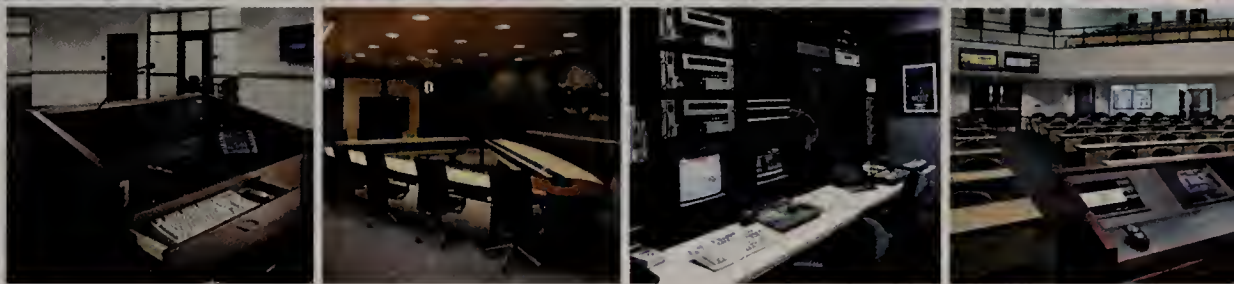
What's the ROI on all this?

The big savings is time to market. For example, in the provisioning process, the ability for us to create a new product or a new flow in the provisioning engine is measured in days and weeks rather than in months, which is how long it takes in our non-SOA-compliant application. **CIO**

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There's almost nothing that business isn't capable of accomplishing. Products that make our lives easier. Ideas that change the way we work. Breakthroughs that extend our lives. And who hasn't witnessed the power of IT and its seemingly limitless ability to achieve what, just a few years ago, was thought to be impossible? What happens when these two forces are joined together? To find out, go to ibm.com/special/cio

How to Influence People

Purdue University CIO Gerry McCartney approaches executive collaboration and influence by building alliances with the people behind the decision-makers

BY GERRY MCCARTNEY



Big universities are like holding companies: We have several different businesses (in our case, colleges and administrative departments) that provide their own services and products under a single brand. Obviously there are inefficiencies in this environment, and my job as Purdue University's CIO is to reduce resource duplication and provide centralized services. But I have limited control. Half of Purdue's 1,000 IT staff are located in the colleges and departments, and I have little authority in those areas. For example, if I decline a purchase request, our colleges and departments can make the purchase with their own budgets. Therefore, my primary course of action to accomplish my objectives is through collaboration and influence.

The raw ingredients of influence are straightforward: You have a story about a problem or an opportunity you want to address, a logical argument for your position and the supporting evidence for it. You mix those ingredients in proportions that seem right for the decision-makers you are targeting. But it's the approach that you choose to follow that can make or break your success. There are very few people anywhere with the reputation or personal magnetism to make things happen purely on their own. The way people like me get things done is by getting others to help us. To do this, I first concentrate on a small number of opinion makers who aren't necessarily in charge, but who are close to the top and help form others' opinions. Being able to identify those opinion leaders and make them your allies is the secret sauce of influence.

* you.



Integration of business and IT isn't something that's "hopefully" accomplished in Q... whenever. As one CEO put it, "It's as important as water is for sea traffic." And since a CIO's panoramic view of the business is unmatched, your role in bridging this great divide is critical. But how do you actually do it? Where do you start?



On the next page, we begin to answer those questions. You'll find insights from a company that has a wealth of business process and IT experience. And there's one person who can bring that depth of knowledge to bear on your business. You. To find out more, go to ibm.com/special/cio

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When business and IT are working as one, costs go down. And overall agility goes, well, through the roof. But the best news is, when you're fully integrated, you can collaborate in new ways. New products can be driven by customer insights. And you can quickly react to an opportunity. In short, you can innovate. Of course, creating a collaborative environment will take some work. But we know the perfect person for the job. To find out more, go to ibm.com/special/cio

Identify Your Allies

At Purdue's Krannert School of Management, where I was the assistant dean before taking the university CIO job earlier this year, I knew who the opinion leaders were and knew them well. I also knew which people thought they were opinion leaders but really weren't. Now at the university level, there are a lot of people I don't know, and I'm trying to discern who the players are. Being sophisticated professionals, even if they are not relevant opinion leaders, they know how to create the impression that they are. To help me see past that, I have a trusted business-side ambassador in each area who can tell me whom the players are.

Then it's up to me to verify that I know the right people to influence. To do this, I arrange to be part of a collaborative situation with them—such as a project or committee—and I start to build a relationship. I'll observe whether the people follow up, keep their word and have a good sense of the pulse of their group.

I'll usually try something small early on—something about which it doesn't really matter whether I win or lose—and see how the relationship plays out. For example, I might suggest to a hiring officer that we involve IT people in the interview processes for a faculty or administrative position. The hiring officer may make that happen, or tell you no way. Or she might

I'll target people who aren't necessarily the ones in charge, but are close to the top and important because they help form others' opinions. Being able to identify those opinion leaders is the secret sauce of influence.

That's not a tool you want to use every time you need to influence someone because you use up a lot of credibility with such an all-or-nothing approach.

Let Your Allies Influence You

I always keep in mind that collaboration is a two-way street. People want to influence us, too, and we have to let ourselves be open to that. There are opportunities for collaboration even when decision-makers think we've made a mistake.

An example: The college of engineering is putting up a new building. The university's process for installing wireless services is to wait until the building is finished before we design and implement the system. There are some reasonable engineering reasons for doing it that way, but the process also derives from our experience, which comes mostly from retrofitting existing buildings.

The dean of engineering called me to tell me this wasn't satisfactory. To her, it looked like we had dropped the ball. So I consulted with my technical people, then with the university architect who is managing the building construction. We concluded that it's better to tweak the wireless installation after it's installed than to wait until the building is finished. The architect and I went back to the dean with an accelerated schedule for wireless network installation and a plan to revise how we do wireless in all new construction.

The dean feels rightly that her influence has improved our institutional processes. Because I took her complaints seriously, I may be able to turn to her the next time I need something. Additionally, I have established a new relationship with the university architect.

Competency in collaboration and influence is not something you can switch on. You have to follow some basic rules, such as always being honest, and work hard to avoid being defensive. You can study your fellow executives to pick up their techniques. But mostly you've got to get in there and practice to find your own style. It's like negotiation; you'll win some, you'll lose some. But by becoming an expert in strategic collaboration, your business will be better off for your efforts.

Gerry McCartney is vice president of IT and CIO of Purdue University and a member of the CIO Executive Council. To comment on this article, go to the online version at www.cio.com/article/128850.



More About Strategic Leadership

Watch a video of Purdue University CIO Gerry McCartney talking about the leadership competency of market knowledge and the future of the CIO, part of **THE CIO EXECUTIVE COUNCIL OUTLOOK VIDEO SERIES** at www.cio.com/video/outlookseries. Find more columns and tools on **LEADERSHIP COMPETENCIES** at www.cio.com/cec/strategic_cio/.

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be initially supportive of the idea but it never quite works out. Whatever happens, you'll discover whether this person is someone you can work with.

When I have an idea, my general strategy is to sound it out with the people who advise the person I'm trying to influence. Most people, when you pitch them something big, will have a couple of people they talk to about it. So my first pitch is to those "sounding board" people. I don't ask them to bring my idea up with the decision-maker herself; instead, I ask them what they believe the decision maker will think about it. I listen to how they poke at my idea, and from those conversations I'll determine whether I'm good to go, whether I need to tweak my pitch or whether my proposal is likely to be dead on arrival.

Only rarely will I come on strong and let the decision-makers know without a doubt that I want something I believe is critical to the university and thus to me. I will already have sounded out the people around them—and if necessary, applied pressure from underneath and sometimes from above—so that they know I'm going to do everything in my power to make this happen.

How Good Are You At Collaboration and Influence?

Ask yourself these questions to see how you stack up

BY REYNOLD LEWKE AND STEVE KELNER

The C-level leadership competency of collaboration and influence is about working with peers, partners and others who are not in your line of command, to positively impact business performance. Collaboration and influence involve working indirectly, through persuasion, rather than by formal authority. At basic levels of performance, individuals are willing to collaborate if they are asked. At the medium levels of performance, one actively participates in teamwork and influences as a good team member. At high levels, one not only is a good team player but also enables others to be good team players, facilitating partnerships across organizations and geographies. High performers seek input and compromise when necessary to contribute to the whole team. Top performers actively look for opportunities to make joint decisions and achieve them. The collaboration and influence competency is in part about engaging others, but it is also about giving up sole ownership of an idea or decision.

This is a competency that good CIOs tend to develop because they often do not have significant direct control over where their company is headed. They need it more than CEOs, who can be more direct in their management style.

How Key Execs Rate on Collaboration

CIOs, like their C-level colleagues, have room to improve when it comes to influencing others



These benchmarks rate executive performance on a scale of 1-7. Plotted scores are the average of all scores from the 50th to 85th percentile range among executives rated. The data derives from more than 25,000 executive assessments conducted by Egon Zehnder International.

Are you ready for collaboration and influence?

Those who wish to improve their performance in this critically important competency first need to examine their organization's readiness for the CIO to play an expanded role through collaboration and influence, and then assess their personal readiness. Some questions to ask:

About the Organization

- ☐ Does the organization value or prefer a siloed structure? Can you cross organizational boundaries between functions, geographies or divisions?
- ☐ How easy is it to influence the organization? The more complex or diverse it is, the harder the challenge.
- ☐ Do you know the players who are key to getting work done?

About Yourself

- ☐ Do you understand the principles of effective influence and group alignment?
- ☐ Do you see your role as actively bringing people together, or as following the way things are done and executing on predefined plans?
- ☐ How strong is your ability to perceive the feelings, beliefs and preferences of others? Can you see a situation from a perspective other than your own, no matter how much you may disagree with it?
- ☐ Do you get energized by seeing a group work together, or by bringing people together across organizational boundaries or through breaking of old habits?

Based on how receptive your enterprise is, and how adept you are, you can decide how to implement collaborative and influencing behaviors. Like all habits, first you need to identify the problem, then model the changed behavior (leaving yourself room to make mistakes) and persevere until you succeed. **CIO**

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* we see you taking the next steps toward integration.

Translate IT into "business-ese." Before IT and business can converge, IT and business must understand each other. So, rather than using techno-speak, explain in business terms how technology can positively impact the organization and give it a competitive advantage.

Take down that wall. Decisions on how IT is employed should be made jointly, by both IT and business decision makers. So the walls between those groups must be removed. That way, it's not "we-they." It's "us" using IT to shape and execute the business strategy.

Balance risk and reward. An IT portfolio should balance "run the business" and "grow the business" projects. The "run" projects keep your current business model working efficiently. The "grow" projects, while more complex, help you expand into new markets and product lines.

Gain a brand-new perspective. Your entire IT organization would benefit from working directly with other business units within the organization. Once your staff is acquainted with specific business challenges, they're more likely to know how to use technology to solve them.

Now you're four steps closer to integration. The fifth step? Choosing a partner. And we can help with that, too. If you need someone with extensive integration experience, nobody even comes close to IBM. Our team of over 100,000 delivery specialists has deployed thousands of business and IT projects in multiple industries. And in many countries.

IBM experts use proven business modeling methodologies to help CIOs decide which IT processes drive the most business value, and which give you the best competitive advantage. Our financing options turn up-front costs into affordable payments. And with a range of outsourcing solutions, you can worry less about running the business. So you can focus on growing the business. If your goal is driving growth and creating more collaboration, we have a suggestion. Collaborate with us.



* We interviewed 170 CIOs and 765 CEOs. Want to know what most CIOs considered their greatest obstacle? Find out at ibm.com/special/cio

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The supplier is connected to the regional buyer
is connected to the channel partner
is connected to the supply chain management system
is connected to the malicious code which was just eradicated by
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